

FIG. 1A

atg gct ttc tgc aca cag ttg atg ctt ctg ctg tgg aaa aat tac acc	48
<u>Met Ala Phe Cys Thr Gln Leu Met Leu Leu Leu Trp Lys Asn Tyr Thr</u>	
1 5 10 15	
tat cga cgg aga caa ccg atc caa cta cta gtg gag ttg ctt tgg ccc	96
<u>Tyr Arg Arg Arg Gln Pro Ile Gln Leu Leu Val Glu Leu Leu Trp Pro</u>	
20 25 30	
ctc ttc ctc ttc atc cta gtg gct gtc cgt cac tcc cac ccc cct	144
<u>Leu Phe Leu Phe Ile Leu Val Ala Val Arg His Ser His Pro Pro</u>	
35 40 45	
ctg gag cat cac gaa tgc cac ttt cca aac aag cca tta cca tcg gcg	192
<u>Leu Glu His His Glu Cys His Phe Pro Asn Lys Pro Leu Pro Ser Ala</u>	
50 55 60	
ggc acg gtg ccc tgg ctg cag ggc ctt gtc tgc aac gta aac aac tcc	240
<u>Gly Thr Val Pro Trp Leu Gln Gly Leu Val Cys Asn Val Asn Asn Ser</u>	
65 70 75 80	
tgc ttc cag cac cca acg cct ggc gag aag cct ggg gtc ctg agt aac	288
<u>Cys Phe Gln His Pro Thr Pro Gly Glu Lys Pro Gly Val Leu Ser Asn</u>	
85 90 95	
ttt aag gat tcc ttg atc tcg agg ctc ctc gct gat acc cgc aca gtg	336
<u>Phe Lys Asp Ser Leu Ile Ser Arg Leu Leu Ala Asp Thr Arg Thr Val</u>	
100 105 110	
ctc ggg ggc cac agc atc cag gac atg ctg gat gcc ctg ggg aaa ctg	384
<u>Leu Gly Gly His Ser Ile Gln Asp Met Leu Asp Ala Leu Gly Lys Leu</u>	
115 120 125	
atc ccc gtg ctc agg gca gtt gga ggt gga gca cga cca cag gag agt	432
<u>Ile Pro Val Leu Arg Ala Val Gly Gly Ala Arg Pro Gln Glu Ser</u>	
130 135 140	
gac cag ccg acc agt caa ggg tca gtg act aag ctt ctg gag aag atc	480
<u>Asp Gln Pro Thr Ser Gln Gly Ser Val Thr Lys Leu Leu Glu Lys Ile</u>	
145 150 155 160	
ctg caa agg gca tcc ctg gat cct gtg ctg ggt caa gcc cag gat tct	528
<u>Leu Gln Arg Ala Ser Leu Asp Pro Val Leu Gly Gln Ala Gln Asp Ser</u>	
165 170 175	
atg aga aag ttc tca gat gct atc agg gat ctt gcc cag gag ctc ctg	576
<u>Met Arg Lys Phe Ser Asp Ala Ile Arg Asp Leu Ala Gln Glu Leu Leu</u>	
180 185 190	
aca ctg ccc agc ctg atg gag ctc cga gct ttg ctg cgg agg ccc cga	624
<u>Thr Leu Pro Ser Leu Met Glu Leu Arg Ala Leu Leu Arg Arg Pro Arg</u>	
195 200 205	

FIG. 1B

ggg tca gct ggt tct ctg gag ctg gtt tcg gag gcc ctc tgc agt acc		672	
Gly Ser Ala Gly Ser Leu Glu Leu Val Ser Glu Ala Leu Cys Ser Thr			
210	215	220	
aag gga ccc agc agt cca ggg ggc ctg tcc ctc aat tgg tac gaa gcc		720	
Lys Gly Pro Ser Ser Pro Gly Leu Ser Leu Asn Trp Tyr Glu Ala			
225	230	235	240
aac cag ctt aat gag ttc atg ggg cca gag gtg gcc cct gcc ctg cct		768	
Asn Gln Leu Asn Glu Phe Met Gly Pro Glu Val Ala Pro Ala Leu Pro			
245	250	255	
gac aac agt ctc agc cct gcc tgc tct gag ttt gtg ggg aca ctg gat		816	
Asp Asn Ser Leu Ser Pro Ala Cys Ser Glu Phe Val Gly Thr Leu Asp			
260	265	270	
gac cac cct gtg tct cgg ctg ctc tgg agg cgc ctg aag cca ttg atc		864	
Asp His Pro Val Ser Arg Leu Leu Trp Arg Arg Leu Lys Pro Leu Ile			
275	280	285	
ctc ggg aaa att ctc ttt gca cct gac aca aac ttc act cgg aag ctc		912	
Leu Gly Lys Ile Leu Phe Ala Pro Asp Thr Asn Phe Thr Arg Lys Leu			
290	295	300	
atg gct cag gtg aac cag acc ttc gag gag ctg gct ctg ttg agg gac		960	
Met Ala Gln Val Asn Gln Thr Phe Glu Glu Leu Ala Leu Leu Arg Asp			
305	310	315	320
cta cac gaa ctc tgg ggg gtg ctg gga ccc cag atc ttc aac ttc atg		1008	
Leu His Glu Leu Trp Gly Val Leu Gly Pro Gln Ile Phe Asn Phe Met			
325	330	335	
aat gac agt acc aac gtg gcc atg ctt cag agg ctt ctg gat gtg ggg		1056	
Asn Asp Ser Thr Asn Val Ala Met Leu Gln Arg Leu Leu Asp Val Gly			
340	345	350	
ggc aca ggg cag agg cag cag aca ccc aga gcc cag aag aag ttg gag		1104	
Gly Thr Gly Gln Arg Gln Gln Thr Pro Arg Ala Gln Lys Lys Leu Glu			
355	360	365	
gct atc aaa gac ttt ctg gat cct agt agg ggt ggc tac agc tgg cgg		1152	
Ala Ile Lys Asp Phe Leu Asp Pro Ser Arg Gly Gly Tyr Ser Trp Arg			
370	375	380	
gag gcc cac gca gat atg gga cgc ctg gct gga atc cta gga caa atg		1200	
Glu Ala His Ala Asp Met Gly Arg Leu Ala Gly Ile Leu Gly Gln Met			
385	390	395	400
atg gag tgt gtg tcc ctg gac aag ctg gag gct gtg ccc tca gag gaa		1248	
Met Glu Cys Val Ser Leu Asp Lys Leu Glu Ala Val Pro Ser Glu Glu			
405	410	415	

FIG. 1C

gct ctt gtg tcc cgt gcc ctg gag ctg ctg ggt gag cgc cgc ctc tgg	1296																																																																																																		
Ala Leu Val Ser Arg Ala Leu Glu Leu Leu Gly Glu Arg Arg Leu Trp																																																																																																			
420	425	430		gca ggc atc gtg ttc ctg agc cca gag cat cct ctg gac cca tcc gaa	1344	Ala Gly Ile Val Phe Leu Ser Pro Glu His Pro Leu Asp Pro Ser Glu		435	440	445		ctg tca tct cca gcc ctg agt cct ggc cac cta cga ttc aag att cga	1392	Leu Ser Ser Pro Ala Leu Ser Pro Gly His Leu Arg Phe Lys Ile Arg		450	455	460		atg gat atc gat gat gtc aca agg acc aat aag atc agg gac aag ttt	1440	Met Asp Ile Asp Asp Val Thr Arg Thr Asn Lys Ile Arg Asp Lys Phe		465	470	475	480	tgg gac cca ggt ccg tca gca gat cct ttc atg gac ctt cgg tat gtg	1488	Trp Asp Pro Gly Pro Ser Ala Asp Pro Phe Met Asp Leu Arg Tyr Val		485	490	495		tgg gga ggc ttc gtg tac ctg cag gac ctg gag cag gca gct gtg	1536	Trp Gly Gly Phe Val Tyr Leu Gln Asp Leu Leu Glu Gln Ala Ala Val		500	505	510		cga gtg ctc ggt ggc ggg aac tcc cgc aca ggt ctc tac ctg cag cag	1584	Arg Val Leu Gly Gly Asn Ser Arg Thr Gly Leu Tyr Leu Gln Gln		515	520	525		atg cca cac ccc tgc tac gtg gat gat gtg ttc ctg cgg gtg ctg agc	1632	Met Pro His Pro Cys Tyr Val Asp Asp Val Phe Leu Arg Val Leu Ser		530	535	540		cgg tct ctg cct ctg ttt ctg act ctg gcc tgg att tat tcg gtg gcg	1680	Arg Ser Leu Pro Leu Phe Leu Thr Leu Ala Trp Ile Tyr Ser Val Ala		545	550	555	560	ctc act gtg aag gcc gtg gtg cgt gag aaa gag aca cgg ctg cga gaa	1728	Leu Thr Val Lys Ala Val Val Arg Glu Lys Glu Thr Arg Leu Arg Glu		565	570	575		acc atg cgt gcg atg ggg ctg agc cgc gcg gtg ctc tgg ctt ggt tgg	1776	Thr Met Arg Ala Met Gly Leu Ser Arg Ala Val Leu Trp Leu Gly Trp		580	585	590		ttc ctc agc tgc ctg gga ccc ttc ctg gtc agc gct gcg ttg ctg gta	1824	Phe Leu Ser Cys Leu Gly Pro Phe Leu Val Ser Ala Ala Leu Leu Val		595	600	605		tta gtg ctt aag cta ggg aac atc ctt cct tac agc cac ccg gtt gta	1872	Leu Val Leu Lys Leu Gly Asn Ile Leu Pro Tyr Ser His Pro Val Val		610	615	620	
430																																																																																																			
gca ggc atc gtg ttc ctg agc cca gag cat cct ctg gac cca tcc gaa	1344																																																																																																		
Ala Gly Ile Val Phe Leu Ser Pro Glu His Pro Leu Asp Pro Ser Glu																																																																																																			
435	440	445		ctg tca tct cca gcc ctg agt cct ggc cac cta cga ttc aag att cga	1392	Leu Ser Ser Pro Ala Leu Ser Pro Gly His Leu Arg Phe Lys Ile Arg		450	455	460		atg gat atc gat gat gtc aca agg acc aat aag atc agg gac aag ttt	1440	Met Asp Ile Asp Asp Val Thr Arg Thr Asn Lys Ile Arg Asp Lys Phe		465	470	475	480	tgg gac cca ggt ccg tca gca gat cct ttc atg gac ctt cgg tat gtg	1488	Trp Asp Pro Gly Pro Ser Ala Asp Pro Phe Met Asp Leu Arg Tyr Val		485	490	495		tgg gga ggc ttc gtg tac ctg cag gac ctg gag cag gca gct gtg	1536	Trp Gly Gly Phe Val Tyr Leu Gln Asp Leu Leu Glu Gln Ala Ala Val		500	505	510		cga gtg ctc ggt ggc ggg aac tcc cgc aca ggt ctc tac ctg cag cag	1584	Arg Val Leu Gly Gly Asn Ser Arg Thr Gly Leu Tyr Leu Gln Gln		515	520	525		atg cca cac ccc tgc tac gtg gat gat gtg ttc ctg cgg gtg ctg agc	1632	Met Pro His Pro Cys Tyr Val Asp Asp Val Phe Leu Arg Val Leu Ser		530	535	540		cgg tct ctg cct ctg ttt ctg act ctg gcc tgg att tat tcg gtg gcg	1680	Arg Ser Leu Pro Leu Phe Leu Thr Leu Ala Trp Ile Tyr Ser Val Ala		545	550	555	560	ctc act gtg aag gcc gtg gtg cgt gag aaa gag aca cgg ctg cga gaa	1728	Leu Thr Val Lys Ala Val Val Arg Glu Lys Glu Thr Arg Leu Arg Glu		565	570	575		acc atg cgt gcg atg ggg ctg agc cgc gcg gtg ctc tgg ctt ggt tgg	1776	Thr Met Arg Ala Met Gly Leu Ser Arg Ala Val Leu Trp Leu Gly Trp		580	585	590		ttc ctc agc tgc ctg gga ccc ttc ctg gtc agc gct gcg ttg ctg gta	1824	Phe Leu Ser Cys Leu Gly Pro Phe Leu Val Ser Ala Ala Leu Leu Val		595	600	605		tta gtg ctt aag cta ggg aac atc ctt cct tac agc cac ccg gtt gta	1872	Leu Val Leu Lys Leu Gly Asn Ile Leu Pro Tyr Ser His Pro Val Val		610	615	620									
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Leu Ser Ser Pro Ala Leu Ser Pro Gly His Leu Arg Phe Lys Ile Arg																																																																																																			
450	455	460		atg gat atc gat gat gtc aca agg acc aat aag atc agg gac aag ttt	1440	Met Asp Ile Asp Asp Val Thr Arg Thr Asn Lys Ile Arg Asp Lys Phe		465	470	475	480	tgg gac cca ggt ccg tca gca gat cct ttc atg gac ctt cgg tat gtg	1488	Trp Asp Pro Gly Pro Ser Ala Asp Pro Phe Met Asp Leu Arg Tyr Val		485	490	495		tgg gga ggc ttc gtg tac ctg cag gac ctg gag cag gca gct gtg	1536	Trp Gly Gly Phe Val Tyr Leu Gln Asp Leu Leu Glu Gln Ala Ala Val		500	505	510		cga gtg ctc ggt ggc ggg aac tcc cgc aca ggt ctc tac ctg cag cag	1584	Arg Val Leu Gly Gly Asn Ser Arg Thr Gly Leu Tyr Leu Gln Gln		515	520	525		atg cca cac ccc tgc tac gtg gat gat gtg ttc ctg cgg gtg ctg agc	1632	Met Pro His Pro Cys Tyr Val Asp Asp Val Phe Leu Arg Val Leu Ser		530	535	540		cgg tct ctg cct ctg ttt ctg act ctg gcc tgg att tat tcg gtg gcg	1680	Arg Ser Leu Pro Leu Phe Leu Thr Leu Ala Trp Ile Tyr Ser Val Ala		545	550	555	560	ctc act gtg aag gcc gtg gtg cgt gag aaa gag aca cgg ctg cga gaa	1728	Leu Thr Val Lys Ala Val Val Arg Glu Lys Glu Thr Arg Leu Arg Glu		565	570	575		acc atg cgt gcg atg ggg ctg agc cgc gcg gtg ctc tgg ctt ggt tgg	1776	Thr Met Arg Ala Met Gly Leu Ser Arg Ala Val Leu Trp Leu Gly Trp		580	585	590		ttc ctc agc tgc ctg gga ccc ttc ctg gtc agc gct gcg ttg ctg gta	1824	Phe Leu Ser Cys Leu Gly Pro Phe Leu Val Ser Ala Ala Leu Leu Val		595	600	605		tta gtg ctt aag cta ggg aac atc ctt cct tac agc cac ccg gtt gta	1872	Leu Val Leu Lys Leu Gly Asn Ile Leu Pro Tyr Ser His Pro Val Val		610	615	620																	
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atg gat atc gat gat gtc aca agg acc aat aag atc agg gac aag ttt	1440																																																																																																		
Met Asp Ile Asp Asp Val Thr Arg Thr Asn Lys Ile Arg Asp Lys Phe																																																																																																			
465	470	475	480	tgg gac cca ggt ccg tca gca gat cct ttc atg gac ctt cgg tat gtg	1488	Trp Asp Pro Gly Pro Ser Ala Asp Pro Phe Met Asp Leu Arg Tyr Val		485	490	495		tgg gga ggc ttc gtg tac ctg cag gac ctg gag cag gca gct gtg	1536	Trp Gly Gly Phe Val Tyr Leu Gln Asp Leu Leu Glu Gln Ala Ala Val		500	505	510		cga gtg ctc ggt ggc ggg aac tcc cgc aca ggt ctc tac ctg cag cag	1584	Arg Val Leu Gly Gly Asn Ser Arg Thr Gly Leu Tyr Leu Gln Gln		515	520	525		atg cca cac ccc tgc tac gtg gat gat gtg ttc ctg cgg gtg ctg agc	1632	Met Pro His Pro Cys Tyr Val Asp Asp Val Phe Leu Arg Val Leu Ser		530	535	540		cgg tct ctg cct ctg ttt ctg act ctg gcc tgg att tat tcg gtg gcg	1680	Arg Ser Leu Pro Leu Phe Leu Thr Leu Ala Trp Ile Tyr Ser Val Ala		545	550	555	560	ctc act gtg aag gcc gtg gtg cgt gag aaa gag aca cgg ctg cga gaa	1728	Leu Thr Val Lys Ala Val Val Arg Glu Lys Glu Thr Arg Leu Arg Glu		565	570	575		acc atg cgt gcg atg ggg ctg agc cgc gcg gtg ctc tgg ctt ggt tgg	1776	Thr Met Arg Ala Met Gly Leu Ser Arg Ala Val Leu Trp Leu Gly Trp		580	585	590		ttc ctc agc tgc ctg gga ccc ttc ctg gtc agc gct gcg ttg ctg gta	1824	Phe Leu Ser Cys Leu Gly Pro Phe Leu Val Ser Ala Ala Leu Leu Val		595	600	605		tta gtg ctt aag cta ggg aac atc ctt cct tac agc cac ccg gtt gta	1872	Leu Val Leu Lys Leu Gly Asn Ile Leu Pro Tyr Ser His Pro Val Val		610	615	620																									
475	480																																																																																																		
tgg gac cca ggt ccg tca gca gat cct ttc atg gac ctt cgg tat gtg	1488																																																																																																		
Trp Asp Pro Gly Pro Ser Ala Asp Pro Phe Met Asp Leu Arg Tyr Val																																																																																																			
485	490	495		tgg gga ggc ttc gtg tac ctg cag gac ctg gag cag gca gct gtg	1536	Trp Gly Gly Phe Val Tyr Leu Gln Asp Leu Leu Glu Gln Ala Ala Val		500	505	510		cga gtg ctc ggt ggc ggg aac tcc cgc aca ggt ctc tac ctg cag cag	1584	Arg Val Leu Gly Gly Asn Ser Arg Thr Gly Leu Tyr Leu Gln Gln		515	520	525		atg cca cac ccc tgc tac gtg gat gat gtg ttc ctg cgg gtg ctg agc	1632	Met Pro His Pro Cys Tyr Val Asp Asp Val Phe Leu Arg Val Leu Ser		530	535	540		cgg tct ctg cct ctg ttt ctg act ctg gcc tgg att tat tcg gtg gcg	1680	Arg Ser Leu Pro Leu Phe Leu Thr Leu Ala Trp Ile Tyr Ser Val Ala		545	550	555	560	ctc act gtg aag gcc gtg gtg cgt gag aaa gag aca cgg ctg cga gaa	1728	Leu Thr Val Lys Ala Val Val Arg Glu Lys Glu Thr Arg Leu Arg Glu		565	570	575		acc atg cgt gcg atg ggg ctg agc cgc gcg gtg ctc tgg ctt ggt tgg	1776	Thr Met Arg Ala Met Gly Leu Ser Arg Ala Val Leu Trp Leu Gly Trp		580	585	590		ttc ctc agc tgc ctg gga ccc ttc ctg gtc agc gct gcg ttg ctg gta	1824	Phe Leu Ser Cys Leu Gly Pro Phe Leu Val Ser Ala Ala Leu Leu Val		595	600	605		tta gtg ctt aag cta ggg aac atc ctt cct tac agc cac ccg gtt gta	1872	Leu Val Leu Lys Leu Gly Asn Ile Leu Pro Tyr Ser His Pro Val Val		610	615	620																																	
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tgg gga ggc ttc gtg tac ctg cag gac ctg gag cag gca gct gtg	1536																																																																																																		
Trp Gly Gly Phe Val Tyr Leu Gln Asp Leu Leu Glu Gln Ala Ala Val																																																																																																			
500	505	510		cga gtg ctc ggt ggc ggg aac tcc cgc aca ggt ctc tac ctg cag cag	1584	Arg Val Leu Gly Gly Asn Ser Arg Thr Gly Leu Tyr Leu Gln Gln		515	520	525		atg cca cac ccc tgc tac gtg gat gat gtg ttc ctg cgg gtg ctg agc	1632	Met Pro His Pro Cys Tyr Val Asp Asp Val Phe Leu Arg Val Leu Ser		530	535	540		cgg tct ctg cct ctg ttt ctg act ctg gcc tgg att tat tcg gtg gcg	1680	Arg Ser Leu Pro Leu Phe Leu Thr Leu Ala Trp Ile Tyr Ser Val Ala		545	550	555	560	ctc act gtg aag gcc gtg gtg cgt gag aaa gag aca cgg ctg cga gaa	1728	Leu Thr Val Lys Ala Val Val Arg Glu Lys Glu Thr Arg Leu Arg Glu		565	570	575		acc atg cgt gcg atg ggg ctg agc cgc gcg gtg ctc tgg ctt ggt tgg	1776	Thr Met Arg Ala Met Gly Leu Ser Arg Ala Val Leu Trp Leu Gly Trp		580	585	590		ttc ctc agc tgc ctg gga ccc ttc ctg gtc agc gct gcg ttg ctg gta	1824	Phe Leu Ser Cys Leu Gly Pro Phe Leu Val Ser Ala Ala Leu Leu Val		595	600	605		tta gtg ctt aag cta ggg aac atc ctt cct tac agc cac ccg gtt gta	1872	Leu Val Leu Lys Leu Gly Asn Ile Leu Pro Tyr Ser His Pro Val Val		610	615	620																																									
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cga gtg ctc ggt ggc ggg aac tcc cgc aca ggt ctc tac ctg cag cag	1584																																																																																																		
Arg Val Leu Gly Gly Asn Ser Arg Thr Gly Leu Tyr Leu Gln Gln																																																																																																			
515	520	525		atg cca cac ccc tgc tac gtg gat gat gtg ttc ctg cgg gtg ctg agc	1632	Met Pro His Pro Cys Tyr Val Asp Asp Val Phe Leu Arg Val Leu Ser		530	535	540		cgg tct ctg cct ctg ttt ctg act ctg gcc tgg att tat tcg gtg gcg	1680	Arg Ser Leu Pro Leu Phe Leu Thr Leu Ala Trp Ile Tyr Ser Val Ala		545	550	555	560	ctc act gtg aag gcc gtg gtg cgt gag aaa gag aca cgg ctg cga gaa	1728	Leu Thr Val Lys Ala Val Val Arg Glu Lys Glu Thr Arg Leu Arg Glu		565	570	575		acc atg cgt gcg atg ggg ctg agc cgc gcg gtg ctc tgg ctt ggt tgg	1776	Thr Met Arg Ala Met Gly Leu Ser Arg Ala Val Leu Trp Leu Gly Trp		580	585	590		ttc ctc agc tgc ctg gga ccc ttc ctg gtc agc gct gcg ttg ctg gta	1824	Phe Leu Ser Cys Leu Gly Pro Phe Leu Val Ser Ala Ala Leu Leu Val		595	600	605		tta gtg ctt aag cta ggg aac atc ctt cct tac agc cac ccg gtt gta	1872	Leu Val Leu Lys Leu Gly Asn Ile Leu Pro Tyr Ser His Pro Val Val		610	615	620																																																	
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atg cca cac ccc tgc tac gtg gat gat gtg ttc ctg cgg gtg ctg agc	1632																																																																																																		
Met Pro His Pro Cys Tyr Val Asp Asp Val Phe Leu Arg Val Leu Ser																																																																																																			
530	535	540		cgg tct ctg cct ctg ttt ctg act ctg gcc tgg att tat tcg gtg gcg	1680	Arg Ser Leu Pro Leu Phe Leu Thr Leu Ala Trp Ile Tyr Ser Val Ala		545	550	555	560	ctc act gtg aag gcc gtg gtg cgt gag aaa gag aca cgg ctg cga gaa	1728	Leu Thr Val Lys Ala Val Val Arg Glu Lys Glu Thr Arg Leu Arg Glu		565	570	575		acc atg cgt gcg atg ggg ctg agc cgc gcg gtg ctc tgg ctt ggt tgg	1776	Thr Met Arg Ala Met Gly Leu Ser Arg Ala Val Leu Trp Leu Gly Trp		580	585	590		ttc ctc agc tgc ctg gga ccc ttc ctg gtc agc gct gcg ttg ctg gta	1824	Phe Leu Ser Cys Leu Gly Pro Phe Leu Val Ser Ala Ala Leu Leu Val		595	600	605		tta gtg ctt aag cta ggg aac atc ctt cct tac agc cac ccg gtt gta	1872	Leu Val Leu Lys Leu Gly Asn Ile Leu Pro Tyr Ser His Pro Val Val		610	615	620																																																									
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cgg tct ctg cct ctg ttt ctg act ctg gcc tgg att tat tcg gtg gcg	1680																																																																																																		
Arg Ser Leu Pro Leu Phe Leu Thr Leu Ala Trp Ile Tyr Ser Val Ala																																																																																																			
545	550	555	560	ctc act gtg aag gcc gtg gtg cgt gag aaa gag aca cgg ctg cga gaa	1728	Leu Thr Val Lys Ala Val Val Arg Glu Lys Glu Thr Arg Leu Arg Glu		565	570	575		acc atg cgt gcg atg ggg ctg agc cgc gcg gtg ctc tgg ctt ggt tgg	1776	Thr Met Arg Ala Met Gly Leu Ser Arg Ala Val Leu Trp Leu Gly Trp		580	585	590		ttc ctc agc tgc ctg gga ccc ttc ctg gtc agc gct gcg ttg ctg gta	1824	Phe Leu Ser Cys Leu Gly Pro Phe Leu Val Ser Ala Ala Leu Leu Val		595	600	605		tta gtg ctt aag cta ggg aac atc ctt cct tac agc cac ccg gtt gta	1872	Leu Val Leu Lys Leu Gly Asn Ile Leu Pro Tyr Ser His Pro Val Val		610	615	620																																																																	
555	560																																																																																																		
ctc act gtg aag gcc gtg gtg cgt gag aaa gag aca cgg ctg cga gaa	1728																																																																																																		
Leu Thr Val Lys Ala Val Val Arg Glu Lys Glu Thr Arg Leu Arg Glu																																																																																																			
565	570	575		acc atg cgt gcg atg ggg ctg agc cgc gcg gtg ctc tgg ctt ggt tgg	1776	Thr Met Arg Ala Met Gly Leu Ser Arg Ala Val Leu Trp Leu Gly Trp		580	585	590		ttc ctc agc tgc ctg gga ccc ttc ctg gtc agc gct gcg ttg ctg gta	1824	Phe Leu Ser Cys Leu Gly Pro Phe Leu Val Ser Ala Ala Leu Leu Val		595	600	605		tta gtg ctt aag cta ggg aac atc ctt cct tac agc cac ccg gtt gta	1872	Leu Val Leu Lys Leu Gly Asn Ile Leu Pro Tyr Ser His Pro Val Val		610	615	620																																																																									
575																																																																																																			
acc atg cgt gcg atg ggg ctg agc cgc gcg gtg ctc tgg ctt ggt tgg	1776																																																																																																		
Thr Met Arg Ala Met Gly Leu Ser Arg Ala Val Leu Trp Leu Gly Trp																																																																																																			
580	585	590		ttc ctc agc tgc ctg gga ccc ttc ctg gtc agc gct gcg ttg ctg gta	1824	Phe Leu Ser Cys Leu Gly Pro Phe Leu Val Ser Ala Ala Leu Leu Val		595	600	605		tta gtg ctt aag cta ggg aac atc ctt cct tac agc cac ccg gtt gta	1872	Leu Val Leu Lys Leu Gly Asn Ile Leu Pro Tyr Ser His Pro Val Val		610	615	620																																																																																	
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ttc ctc agc tgc ctg gga ccc ttc ctg gtc agc gct gcg ttg ctg gta	1824																																																																																																		
Phe Leu Ser Cys Leu Gly Pro Phe Leu Val Ser Ala Ala Leu Leu Val																																																																																																			
595	600	605		tta gtg ctt aag cta ggg aac atc ctt cct tac agc cac ccg gtt gta	1872	Leu Val Leu Lys Leu Gly Asn Ile Leu Pro Tyr Ser His Pro Val Val		610	615	620																																																																																									
605																																																																																																			
tta gtg ctt aag cta ggg aac atc ctt cct tac agc cac ccg gtt gta	1872																																																																																																		
Leu Val Leu Lys Leu Gly Asn Ile Leu Pro Tyr Ser His Pro Val Val																																																																																																			
610	615	620																																																																																																	
620																																																																																																			

FIG. 1D

atc ttc ctt ttc ttg gcg gcc ttc gcg gtg gcc acc gtc gct cag agt Ile Phe Leu Phe Leu Ala Ala Phe Ala Val Ala Thr Val Ala Gln Ser 625 630 635 640	1920
ttt ctg ctc agc gcc ttc ttc tcc agg gcc aat ctg gca gca gcc tgc Phe Leu Leu Ser Ala Phe Phe Ser Arg Ala Asn Leu Ala Ala Ala Cys 645 650 655	1968
ggg ggg ctc gcc tat ttt gcg ctc tat ctg ccc tac gta ctg tgt gtg Gly Gly Leu Ala Tyr Phe Ala Leu Tyr Leu Pro Tyr Val Leu Cys Val 660 665 670	2016
gcc tgg cgc gag cgc ctg cac ctg ggc gga ctc tta gct gcg agc ctg Ala Trp Arg Glu Arg Leu His Leu Gly Gly Leu Leu Ala Ala Ser Leu 675 680 685	2064
ctg tcc cct gta gcc ttt ggc ttt gga tgc gaa agc ctg gcg cta cta Leu Ser Pro Val Ala Phe Gly Phe Gly Cys Glu Ser Leu Ala Leu Leu 690 695 700	2112
gag gag cag gga gac ggg gct cag tgg cac aat ttg ggc aca ggc ccc Glu Glu Gln Gly Asp Gly Ala Gln Trp His Asn Leu Gly Thr Gly Pro 705 710 715 720	2160
gcg gag gac gtc ttc agc ctg gcc cag gtg tct gcc ttc ctg ttg ctt Ala Glu Asp Val Phe Ser Leu Ala Gln Val Ser Ala Phe Leu Leu Leu 725 730 735	2208
gat gcc gtc atc tac ggc ctt gcc ctc tgg tac cta gag gct gtg tgc Asp Ala Val Ile Tyr Gly Leu Ala Leu Trp Tyr Leu Glu Ala Val Cys 740 745 750	2256
cca ggc cag tat gga atc cct gaa cca tgg aat ttc cct ttt cgg agg Pro Gly Gln Tyr Gly Ile Pro Glu Pro Trp Asn Phe Pro Phe Arg Arg 755 760 765	2304
agc tac tgg tgt gga cct ggg cct ccc aag agt tct gtc ttg gcc cct Ser Tyr Trp Cys Gly Pro Gly Pro Pro Lys Ser Ser Val Leu Ala Pro 770 775 780	2352
gcc cca caa gat ccc aag gtt ctg gtg gaa gag cca ccc ctt ggc ctg Ala Pro Gln Asp Pro Lys Val Leu Val Glu Glu Pro Pro Leu Gly Leu 785 790 795 800	2400
gtt cct ggt gtc tcc att cga ggc ctg aag aaa cat ttt cgt ggc tgt Val Pro Gly Val Ser Ile Arg Gly Leu Lys Lys His Phe Arg Gly Cys 805 810 815	2448
ccg cag cca gcc ctg caa gga ctc aac ctt gac ttc tac gaa ggc cac Pro Gln Pro Ala Leu Gln Gly Leu Asn Leu Asp Phe Tyr Glu Gly His 820 825 830	2496

FIG. 1E

atc act gcc ttt ttg ggt cac aac ggg gct ggc aag aca acc aca ctg Ile Thr Ala Phe Leu Gly His Asn Gly Ala Gly Lys Thr Thr Thr Leu 835 840 845	2544
tcc att ttg agt ggt ctc ttc cca ccc agt agt ggc tcg gcc tcc atc Ser Ile Leu Ser Gly Leu Phe Pro Pro Ser Ser Gly Ser Ala Ser Ile 850 855 860	2592
ctg ggc cat gat gta caa acc aac atg gca gcc atc cgg ccc cac ctg Leu Gly His Asp Val Gln Thr Asn Met Ala Ala Ile Arg Pro His Leu 865 870 875 880	2640
ggc atc tgc ccg cag tac aat gtg ctg ttt gat atg ctg aca gtg gaa Gly Ile Cys Pro Gln Tyr Asn Val Leu Phe Asp Met Leu Thr Val Glu 885 890 895	2688
gaa cat gtt tgg ttc tat ggc cgt ttg aaa ggc gtg agt gca gcc gcc Glu His Val Trp Phe Tyr Gly Arg Leu Lys Gly Val Ser Ala Ala Ala 900 905 910	2736
atg ggc ccc gag cgg gaa cgt ctg ata cgg gat gtg ggg ctt acc ctc Met Gly Pro Glu Arg Glu Arg Leu Ile Arg Asp Val Gly Leu Thr Leu 915 920 925	2784
aag cgg gac aca cag aca cgc cac ctc tct ggt gga atg cag aga aaa Lys Arg Asp Thr Gln Thr Arg His Leu Ser Gly Gly Met Gln Arg Lys 930 935 940	2832
ctt tct gtg gcc att gcc ttt gtg ggt ggc tct cgt gtg gtc atc atg Leu Ser Val Ala Ala Phe Val Gly Gly Ser Arg Val Val Ile Met 945 950 955 960	2880
gac gag ccc act gct ggt gtg gac ccc gct tcc cgc cgt ggc att tgg Asp Glu Pro Thr Ala Gly Val Asp Pro Ala Ser Arg Arg Gly Ile Trp 965 970 975	2928
gaa ttg cta ctt aag tac aga gaa ggt cgg aca ctg att ctc tcc act Glu Leu Leu Lys Tyr Arg Glu Gly Arg Thr Leu Ile Leu Ser Thr 980 985 990	2976
cac cac ctg gat gag gca gag ctc ttg gga gat cgc gtg gcc atg gtg His His Leu Asp Glu Ala Glu Leu Leu Gly Asp Arg Val Ala Met Val 995 1000 1005	3024
gca ggt ggc tct ttg tgc tgc tgt ggg tcc ccc ctt ttc ttg cgc cga Ala Gly Gly Ser Leu Cys Cys Cys Gly Ser Pro Leu Phe Leu Arg Arg 1010 1015 1020	3072
cac ttg ggc tgc ggt tac tac ctg acc ctg gtg aag agt tct cag tcc His Leu Gly Cys Gly Tyr Tyr Leu Thr Leu Val Lys Ser Ser Gln Ser 1025 1030 1035 1040	3120

FIG. 1F

ctc gtc acc cat gat gct aag gga gac agt gag gac ccc aga cgg gaa	3168		
Leu Val Thr His Asp Ala Lys Gly Asp Ser Glu Asp Pro Arg Arg Glu			
1045	1050	1055	
aag aag tca gat ggc aat ggc agg acg tca gac aca gcg ttc aca cga	3216		
Lys Lys Ser Asp Gly Asn Gly Arg Thr Ser Asp Thr Ala Phe Thr Arg			
1060	1065	1070	
gga acc tca gac aag agc aac cag gcc ccg gct cct ggc gcc gtt ccc	3264		
Gly Thr Ser Asp Lys Ser Asn Gln Ala Pro Ala Pro Gly Ala Val Pro			
1075	1080	1085	
atc acc cca agc aca gcc cggtata cta gag cta gtg cag cag cat gtg	3312		
Ile Thr Pro Ser Thr Ala Arg Ile Leu Glu Leu Val Gln Gln His Val			
1090	1095	1100	
cct gga gca caa ctc gtg gag gac ctg ccc cat gag ctt ctg ctt gtg	3360		
Pro Gly Ala Gln Leu Val Glu Asp Leu Pro His Glu Leu Leu Val			
1105	1110	1115	1120
cta ccc tat gcg ggg gcc ctg gat ggc agc ttc gcc atg gtc ttc cag	3408		
Leu Pro Tyr Ala Gly Ala Leu Asp Gly Ser Phe Ala Met Val Phe Gln			
1125	1130	1135	
gag ctg gat cag cag ctg gag ctc ctg ggt ctc aca ggc tac ggg atc	3456		
Glu Leu Asp Gln Gln Leu Glu Leu Leu Gly Leu Thr Gly Tyr Gly Ile			
1140	1145	1150	
tcg gac acc aac ctg gag gag atc ttc cta aag gtg gtg gag gat gcg	3504		
Ser Asp Thr Asn Leu Glu Glu Ile Phe Leu Lys Val Val Glu Asp Ala			
1155	1160	1165	
cac aga gaa ggt ggg gac tct aga ccg cag ctg cac ctt cgc aca tgc	3552		
His Arg Glu Gly Gly Asp Ser Arg Pro Gln Leu His Leu Arg Thr Cys			
1170	1175	1180	
act cca cag ccc aca ggg cca gag gca tca gtt ctg gag aat ggg	3600		
Thr Pro Gln Pro Pro Thr Gly Pro Glu Ala Ser Val Leu Glu Asn Gly			
1185	1190	1195	1200
gag ctg gct aag ctg gtg ctg gat ccc caa gcc cca cag ggc ttg gca	3648		
Glu Leu Ala Lys Leu Val Leu Asp Pro Gln Ala Pro Gln Gly Leu Ala			
1205	1210	1215	
ccc aac gct gcc caa gtg caa ggc tgg aca ctt acc tgt caa cag ctc	3696		
Pro Asn Ala Ala Gln Val Gln Gly Trp Thr Leu Thr Cys Gln Gln Leu			
1220	1225	1230	
cggtctg ctc cac aag cgt ttt ctg ctt gct cgc cgc agc cgc cgg	3744		
Arg Ala Leu Leu His Lys Arg Phe Leu Leu Ala Arg Arg Ser Arg Arg			
1235	1240	1245	

FIG. 1G

ggc ctg ttt gca cag gtt gtg ttg cct gcc ctc ttt gtg ggc ctg gcc	3792
Gly Leu Phe Ala Gln Val Val Leu Pro Ala Leu Phe Val Gly Leu Ala	
1250 1255 1260	
ctg ttc ttc agc ctc att gtg cct cct ttt ggc cag tac cca ccc ctg	3840
Leu Phe Phe Ser Leu Ile Val Pro Pro Phe Gly Gln Tyr Pro Pro Leu	
1265 1270 1275 1280	
cag ctc agc cct gct atg tat ggc cct cag gtc tcg ttc ttc agt gag	3888
Gln Leu Ser Pro Ala Met Tyr Gly Pro Gln Val Ser Phe Phe Ser Glu	
1285 1290 1295	
gat gcc cct ggg gac ccc aac cgg atg aag ctg ctg gag gct ctg cta	3936
Asp Ala Pro Gly Asp Pro Asn Arg Met Lys Leu Leu Glu Ala Leu Leu	
1300 1305 1310	
ggg gag gct ggg ctg cag gaa ccc agt atg cag gac aaa gat gcc agg	3984
Gly Glu Ala Gly Leu Gln Glu Pro Ser Met Gln Asp Lys Asp Ala Arg	
1315 1320 1325	
gga tct gag tgt aca cac tcc cta gct tgc tac ttc acg gtc cct gag	4032
Gly Ser Glu Cys Thr His Ser Leu Ala Cys Tyr Phe Thr Val Pro Glu	
1330 1335 1340	
gtc cct cct gat gtg gcc agc atc ctg gcc agt ggc aac tgg acg cca	4080
Val Pro Pro Asp Val Ala Ser Ile Leu Ala Ser Gly Asn Trp Thr Pro	
1345 1350 1355 1360	
gaa tct cca tcc cca gct tgc caa tgc agt cag cct gga gcc cgc cgc	4128
Glu Ser Pro Ser Pro Ala Cys Gln Cys Ser Gln Pro Gly Ala Arg Arg	
1365 1370 1375	
ctg ttg cca gat tgc ccg gct gga gct ggg ggt cca cca ccc ccc cag	4176
Leu Leu Pro Asp Cys Pro Ala Gly Ala Gly Pro Pro Pro Gln	
1380 1385 1390	
gct gtg gct ggc ttg ggg gag gtg gtc cag aac ctc act ggc cga aat	4224
Ala Val Ala Gly Leu Gly Glu Val Val Gln Asn Leu Thr Gly Arg Asn	
1395 1400 1405	
gtg tct gac ttt ttg gtg aag aca tac ccc agc ctg gtg cgc cga ggc	4272
Val Ser Asp Phe Leu Val Lys Thr Tyr Pro Ser Leu Val Arg Arg Gly	
1410 1415 1420	
cta aag acc aag aag tgg gtg gat gag gtc aga tat ggg ggc ttc tcc	4320
Leu Lys Thr Lys Lys Trp Val Asp Glu Val Arg Tyr Gly Gly Phe Ser	
1425 1430 1435 1440	
ctg gga ggc cga gat cca gac ctg ccc aca ggg cat gag gtg gtc cgc	4368
Leu Gly Gly Arg Asp Pro Asp Leu Pro Thr Gly His Glu Val Val Arg	
1445 1450 1455	

FIG. 1H

aca ttg gca gag att cgg gca ctg ctg agc ccc caa cct ggg aat gcg	4416		
Thr Leu Ala Glu Ile Arg Ala Leu Leu Ser Pro Gln Pro Gly Asn Ala			
1460	1465	1470	
cta gac cgt atc ctg aac aac ctc act cag tgg gcc ctt ggc ctt gat	4464		
Leu Asp Arg Ile Leu Asn Asn Leu Thr Gln Trp Ala Leu Gly Leu Asp			
1475	1480	1485	
gct cggtt aac agc ctc aag atc tgg ttc aac aac aag ggc tgg cat gcc	4512		
Ala Arg Asn Ser Leu Lys Ile Trp Phe Asn Asn Lys Gly Trp His Ala			
1490	1495	1500	
atg gtg gcc ttt gtg aac cga gcc aac aat gga ctc cta cat gcc ctc	4560		
Met Val Ala Phe Val Asn Arg Ala Asn Asn Gly Leu Leu His Ala Leu			
1505	1510	1515	1520
cta cca tct ggt cca gtc cgc cat gcc cac agc atc act aca ctc aac	4608		
Leu Pro Ser Gly Pro Val Arg His Ala His Ser Ile Thr Thr Leu Asn			
1525	1530	1535	
cat cct ttg aac ttg acc aag gag cag cta tct gaa gct aca ctg ata	4656		
His Pro Leu Asn Leu Thr Lys Glu Gln Leu Ser Glu Ala Thr Leu Ile			
1540	1545	1550	
gcc tcc tct gtg gat gtc ctt gtc tcc atc tgt gtg gtc ttc gcc atg	4704		
Ala Ser Ser Val Asp Val Leu Val Ser Ile Cys Val Val Phe Ala Met			
1555	1560	1565	
tca ttt gtc cca gcc agc ttt acc ctg gtc ctc ata gag gaa cgc atc	4752		
Ser Phe Val Pro Ala Ser Phe Thr Leu Val Leu Ile Glu Glu Arg Ile			
1570	1575	1580	
acc aga gcc aag cat ctg cag ctg gtc agc ggc ctg ccc caa acc ctc	4800		
Thr Arg Ala Lys His Leu Gln Leu Val Ser Gly Leu Pro Gln Thr Leu			
1585	1590	1595	1600
tat tgg ctt ggc aac ttc ctc tgg gac atg tgt aac tac ttg gtg gca	4848		
Tyr Trp Leu Gly Asn Phe Leu Trp Asp Met Cys Asn Tyr Leu Val Ala			
1605	1610	1615	
gtg tgc ata gtg gtg ttc atc ttc cta gcc ttt cag cag aga gcc tat	4896		
Val Cys Ile Val Val Phe Ile Phe Leu Ala Phe Gln Gln Arg Ala Tyr			
1620	1625	1630	
gtg gcc cca gag aac ctg cct gct ctc tta ctc ttg ctt ctg ctg tat	4944		
Val Ala Pro Glu Asn Leu Pro Ala Leu Leu Leu Leu Leu Tyr			
1635	1640	1645	
ggg tgg tct atc aca cca ctc atg tac cca gcc tcc ttc ttc tca	4992		
Gly Trp Ser Ile Thr Pro Leu Met Tyr Pro Ala Ser Phe Phe Ser			
1650	1655	1660	

FIG. 1I

gtg ccc agc acg gcc tat gtg gtg ctc acc tgc atc aac ctc ttc att		5040
Val Pro Ser Thr Ala Tyr Val Val Leu Thr Cys Ile Asn Leu Phe Ile		
1665 1670 1675 1680		
ggc atc aat agc agc atg gcc acc ttc gtg cta gaa ctg ctt tca gat		5088
Gly Ile Asn Ser Ser Met Ala Thr Phe Val Leu Glu Leu Leu Ser Asp		
1685 1690 1695		
cag aac ctg caa gaa gtg agc cgg atc ctg aaa caa gtg ttt ctt att		5136
Gln Asn Leu Gln Glu Val Ser Arg Ile Leu Lys Gln Val Phe Leu Ile		
1700 1705 1710		
ttc ccc cac ttt tgc ctt ggc cga ggg ctc att gac atg gtt cgg aac		5184
Phe Pro His Phe Cys Leu Gly Arg Gly Leu Ile Asp Met Val Arg Asn		
1715 1720 1725		
cag gcc atg gca gat gcc ttt gag cgc tta gga gac aag caa ttt cag		5232
Gln Ala Met Ala Asp Ala Phe Glu Arg Leu Gly Asp Lys Gln Phe Gln		
1730 1735 1740		
tca ccc cta cgc tgg gac atc att ggc aag aac ctc ctg gcc atg atg		5280
Ser Pro Leu Arg Trp Asp Ile Ile Gly Lys Asn Leu Leu Ala Met Met		
1745 1750 1755 1760		
gcc cag gga cct ctg ttc ctc atc aca ctc ctg ctc caa cac cgc		5328
Ala Gln Gly Pro Leu Phe Leu Leu Ile Thr Leu Leu Leu Gln His Arg		
1765 1770 1775		
aac cgt ctc ctg cca caa tca aaa cca aga ctg ctg ccg ccc ctg ggg		5376
Asn Arg Leu Leu Pro Gln Ser Lys Pro Arg Leu Leu Pro Pro Leu Gly		
1780 1785 1790		
gag gag gat gag gat gtg gct caa gag cgt gag cgg gtg acc aag ggg		5424
Glu Glu Asp Glu Asp Val Ala Gln Glu Arg Glu Arg Val Thr Lys Gly		
1795 1800 1805		
gct acc cag ggg gat gtg cta gtc ctc agg gac ttg acc aag gtt tac		5472
Ala Thr Gln Gly Asp Val Leu Val Leu Arg Asp Leu Thr Lys Val Tyr		
1810 1815 1820		
cgt ggg cag agg aac cca gct gtg gat cgc ctg tgc tta ggg atc ccc		5520
Arg Gly Gln Arg Asn Pro Ala Val Asp Arg Leu Cys Leu Gly Ile Pro		
1825 1830 1835 1840		
cct ggg gag tgt ttc ggg ctg ctg ggt gtc aac ggg gca ggg aag aca		5568
Pro Gly Glu Cys Phe Gly Leu Leu Gly Val Asn Gly Ala Gly Lys Thr		
1845 1850 1855		
tcc acc ttc cgc atg gtg aca ggg gac aca ctg ccc agc agt ggt gaa		5616
Ser Thr Phe Arg Met Val Thr Gly Asp Thr Leu Pro Ser Ser Gly Glu		
1860 1865 1870		

FIG. 1J

gca gta ctg gca ggc cac aac gtg gcc cag gag cgg tct gcc gca cac Ala Val Leu Ala Gly His Asn Val Ala Gln Glu Arg Ser Ala Ala His 1875 1880 1885	5664
cgc agc atg ggc tac tgt ccc cag tct gat gcc atc ttc gac ctg ctg Arg Ser Met Gly Tyr Cys Pro Gln Ser Asp Ala Ile Phe Asp Leu Leu 1890 1895 1900	5712
acc ggc cggtt gaa cat ctg gaa ctg ttt gct cgc ctg cgc ggg gtg ccc Thr Gly Arg Glu His Leu Glu Leu Phe Ala Arg Leu Arg Gly Val Pro 1905 1910 1915 1920	5760
gag gcc caa gtt gcc cag act gcg ctc tct ggc ctg gtg cgc ctg ggc Glu Ala Gln Val Ala Gln Thr Ala Leu Ser Gly Leu Val Arg Leu Gly 1925 1930 1935	5808
ctt cct agc tat gca gac cga ccc gcg ggt acc tac agc gga ggc aac Leu Pro Ser Tyr Ala Asp Arg Pro Ala Gly Thr Tyr Ser Gly Gly Asn 1940 1945 1950	5856
aaa cggtt aag ctg gcg aca gcc tta gct ctg gtt ggt gac cca gct gtg Lys Arg Lys Leu Ala Thr Ala Leu Val Gly Asp Pro Ala Val 1955 1960 1965	5904
gtc ttt ctg gac gag ccc acc aca gcc atg gac cca agt gcg cgg cga Val Phe Leu Asp Glu Pro Thr Thr Gly Met Asp Pro Ser Ala Arg Arg 1970 1975 1980	5952
ttt ctt tgg aac agc ttg ctg tcc gtg cgc gag ggc cgc tcc gta Phe Leu Trp Asn Ser Leu Leu Ser Val Val Arg Glu Gly Arg Ser Val 1985 1990 1995 2000	6000
gtg ctc acg tcg cac agc atg gag gag tgc gaa gcg ctc tgc acg cgc Val Leu Thr Ser His Ser Met Glu Glu Cys Glu Ala Leu Cys Thr Arg 2005 2010 2015	6048
ctg gcc atc atg gtg aac ggg cgg ttc cgc tgt ctg gga agc tct cag Leu Ala Ile Met Val Asn Gly Arg Phe Arg Cys Leu Gly Ser Ser Gln 2020 2025 2030	6096
cat ctc aaa ggc agg ttc ggg gct ggc cac aca ctg act cta agg gtc His Leu Lys Gly Arg Phe Gly Ala Gly His Thr Leu Thr Leu Arg Val 2035 2040 2045	6144
cca ccg gac cag cct gag ccg gcg ata gcc ttc atc agg atc aca ttc Pro Pro Asp Gln Pro Glu Pro Ala Ile Ala Phe Ile Arg Ile Thr Phe 2050 2055 2060	6192
cct ggg gct gaa ctc cgg gag gtg cac ggc agc cgt ctg cgc ttc caa Pro Gly Ala Glu Leu Arg Glu Val His Gly Ser Arg Leu Arg Phe Gln 2065 2070 2075 2080	6240

FIG. 1K

ctg cca ccg ggg ggc aga tgc acc ctg aca cga gtg ttc agg gag ctg	6288
Leu Pro Pro Gly Gly Arg Cys Thr Leu Thr Arg Val Phe Arg Glu Leu	
2085 2090 2095	
gct gcc cag ggc agg gcc cac ggt gtg gag gac ttc tct gtg agc cag	6336
Ala Ala Gln Gly Arg Ala His Gly Val Glu Asp Phe Ser Val Ser Gln	
2100 2105 2110	
acc act ctg gag gag gtg ttc cta tat ttc tcc aaa gac caa ggg gaa	6384
Thr Thr Leu Glu Glu Val Phe Leu Tyr Phe Ser Lys Asp Gln Gly Glu	
2115 2120 2125	
gag gaa gag agc agt cgg cag gag gct gaa gaa gag gag gtt tcc aaa	6432
Glu Glu Glu Ser Ser Arg Gln Glu Ala Glu Glu Glu Val Ser Lys	
2130 2135 2140	
cct ggc cgg cag cat ccc aaa cgt gtc agc cga ttc ctg gaa gac ccc	6480
Pro Gly Arg Gln His Pro Lys Arg Val Ser Arg Phe Leu Glu Asp Pro	
2145 2150 2155 2160	
agc tct gtg gag acc atg atc tga gcatgcctgc cttgggactg agtggcaaag	6534
Ser Ser Val Glu Thr Met Ile	
2165	
ctcagacaga ggatctctgt accatacgct ggctccaga aagccttggg ctctggggga	6594
aataaaaaaga aactagaatg agaaaaaaaaaaaaaaaa	
	6633

FIG. 2A

ctcaggggcg gcgcgctccc tgcctgtgc tggcgagg gaaggcgca agagctgcgg 60
 agcccctgga agagcttcca ggaaccctgc gctgtggat aaaggaatga ggttcagaaa 120
 ggggcagggta gttccccca gccgcaccgc acgtcttcag cccgaccgtt gtcctgacct 180
 ctctgtccccg tcccccgccc agtctcacc atg gcc ttc tgg aca cag ctg atg 233
Met Ala Phe Trp Thr Gln Leu Met
 1 5

ctg ctg ctc tgg aag aat ttc atg tat cgc cgg aga cag ccg gtc cag 281
Leu Leu Leu Trp Lys Asn Phe Met Tyr Arg Arg Arg Gln Pro Val Gln
 10 15 20

ctc ctg gtc gaa ttg ctg tgg cct ctc ttc ctc ttc atc ctg gtg 329
Leu Leu Val Glu Leu Leu Trp Pro Leu Phe Leu Phe Ile Leu Val
 25 30 35 40

gct gtt cgc cac tcc cac ccg ccc ctg gag cac cat gaa tgc cac ttc 377
Ala Val Arg His Ser His Pro Pro Leu Glu His His Glu Cys His Phe
 45 50 55

cca aac aag cca ctg cca tcg gcg acc gtg ccc tgg ctc cag ggt 425
Pro Asn Lys Pro Leu Pro Ser Ala Gly Thr Val Pro Trp Leu Gln Gly
 60 65 70

ctc atc tgt aat gtg aac aac acc tgc ttt ccg cag ctg aca ccg ggc 473
Leu Ile Cys Asn Val Asn Asn Thr Cys Phe Pro Gln Leu Thr Pro Gly
 75 80 85

gag gag ccc ggg cgc ctg agc aac ttc aac gac tcc ctg gtc tcc cgg 521
Glu Glu Pro Gly Arg Leu Ser Asn Phe Asn Asp Ser Leu Val Ser Arg
 90 95 100

ctg cta gcc gat gcc cgc act gtg ctg gga ggg gcc agt gcc cac agg 569
Leu Leu Ala Asp Ala Arg Thr Val Leu Gly Gly Ala Ser Ala His Arg
 105 110 115 120

acg ctg gct ggc cta ggg aag ctg atc gcc acg ctg agg gct gca cgc 617
Thr Leu Ala Gly Leu Gly Lys Leu Ile Ala Thr Leu Arg Ala Ala Arg
 125 130 135

agc acg gcc cag cct caa cca acc aag cag tct cca ctg gaa cca ccc 665
Ser Thr Ala Gln Pro Gln Pro Thr Lys Gln Ser Pro Leu Glu Pro Pro
 140 145 150

atg ctg gat gtc gcg gag ctg acg tca ctg ctg cgc acg gaa tcc 713
Met Leu Asp Val Ala Glu Leu Leu Thr Ser Leu Leu Arg Thr Glu Ser
 155 160 165

ctg ggg ttg gca ctg ggc caa gcc cag gag ccc ttg cac agc ttg ttg 761
Leu Gly Leu Ala Leu Gly Gln Ala Gln Glu Pro Leu His Ser Leu Leu
 170 175 180

FIG. 2B

gag gcc gct gag gac ctg gcc cag gag ctc ctg gcg ctg cgc agc ctg		809
Glu Ala Ala Glu Asp Leu Ala Gln Glu Leu Leu Ala Leu Arg Ser Leu		
185	190	195
200		
gtg gag ctt cgg gca ctg ctg cag aga ccc cga ggg acc acc ggc ccc		857
Val Glu Leu Arg Ala Leu Leu Gln Arg Pro Arg Gly Thr Ser Gly Pro		
205	210	215
ctg gag ttg ctg tca gag gcc ctc tgc agt gtc agg gga cct agc agc		905
Leu Glu Leu Leu Ser Glu Ala Leu Cys Ser Val Arg Gly Pro Ser Ser		
220	225	230
aca gtg ggc ccc tcc ctc aac tgg tac gag gct agt gac ctg atg gag		953
Thr Val Gly Pro Ser Leu Asn Trp Tyr Glu Ala Ser Asp Leu Met Glu		
235	240	245
ctg gtg ggg cag gag cca gaa tcc gcc ctg cca gac agc agc ctg agc		1001
Leu Val Gly Gln Glu Pro Glu Ser Ala Leu Pro Asp Ser Ser Leu Ser		
250	255	260
ccc gcc tgc tcg gag ctg att gga gcc ctg gac agc cac ccg ctg tcc		1049
Pro Ala Cys Ser Glu Leu Ile Gly Ala Leu Asp Ser His Pro Leu Ser		
265	270	275
280		
cgc ctg ctc tgg aga cgc ctg aag cct ctg atc ctc ggg aag cta ctc		1097
Arg Leu Leu Trp Arg Arg Leu Lys Pro Leu Ile Leu Gly Lys Leu Leu		
285	290	295
ttt gca cca gat aca cct ttt acc cgg aag ctc atg gcc cag gtg aac		1145
Phe Ala Pro Asp Thr Pro Phe Thr Arg Lys Leu Met Ala Gln Val Asn		
300	305	310
cgg acc ttc gag gag ctc acc ctg ctg agg gat gtc cgg gag gtg tgg		1193
Arg Thr Phe Glu Glu Leu Thr Leu Leu Arg Asp Val Arg Glu Val Trp		
315	320	325
gag atg ctg gga ccc cgg atc ttc acc ttc atg aac gac agt tcc aat		1241
Glu Met Leu Gly Pro Arg Ile Phe Thr Phe Met Asn Asp Ser Ser Asn		
330	335	340
gtg gcc atg ctg cag cgg ctc ctg cag atg cag gat gaa gga aga agg		1289
Val Ala Met Leu Gln Arg Leu Leu Gln Met Gln Asp Glu Gly Arg Arg		
345	350	355
360		
cag ccc aga cct gga ggc cgg gac cac atg gag gcc ctg cga tcc ttt		1337
Gln Pro Arg Pro Gly Gly Arg Asp His Met Glu Ala Leu Arg Ser Phe		
365	370	375
ctg gac cct ggg agc ggt ggc tac agc tgg cag gac gca cac gct gat		1385
Leu Asp Pro Gly Ser Gly Gly Tyr Ser Trp Gln Asp Ala His Ala Asp		
380	385	390

FIG. 2C

gtg ggg cac ctg gtg ggc acg ctg ggc cga gtg acg gag tgc ctg tcc		1433
Val Gly His Leu Val Gly Thr Leu Gly Arg Val Thr Glu Cys Leu Ser		
395	400	405
ttg gac aag ctg gag gcg gca ccc tca gag gca gcc ctg gtg tcg cgg		1481
Leu Asp Lys Leu Glu Ala Ala Pro Ser Glu Ala Ala Leu Val Ser Arg		
410	415	420
gcc ctg caa ctg ctc gcg gaa cat cga ttc tgg gcc ggc gtc gtc ttc		1529
Ala Leu Gln Leu Leu Ala Glu His Arg Phe Trp Ala Gly Val Val Phe		
425	430	435
440		
ttg gga cct gag gac tct tca gac ccc aca gag cac cca acc cca gac		1577
Leu Gly Pro Glu Asp Ser Ser Asp Pro Thr Glu His Pro Thr Pro Asp		
445	450	455
ctg ggc ccc ggc cac gtg cgc atc aaa atc cgc atg gac att gac gtg		1625
Leu Gly Pro Gly His Val Arg Ile Lys Ile Arg Met Asp Ile Asp Val		
460	465	470
gtc acg agg acc aat aag atc agg gac agg ttt tgg gac cct ggc cca		1673
Val Thr Arg Thr Asn Lys Ile Arg Asp Arg Phe Trp Asp Pro Gly Pro		
475	480	485
gcc gcg gac ccc ctg acc gac ctg cgc tac gtg tgg ggc ggc ttc gtg		1721
Ala Ala Asp Pro Leu Thr Asp Leu Arg Tyr Val Trp Gly Gly Phe Val		
490	495	500
tac ctg caa gac ctg gtg gag cgt gca gcc gtc cgc gtg ctc agc ggc		1769
Tyr Leu Gln Asp Leu Val Glu Arg Ala Ala Val Arg Val Leu Ser Gly		
505	510	515
520		
gcc aac ccc cgg gcc ggc ctc tac ctg cag cag atg ccc tat ccg tgc		1817
Ala Asn Pro Arg Ala Gly Leu Tyr Leu Gln Gln Met Pro Tyr Pro Cys		
525	530	535
tat gtg gac gac gtg ttc ctg cgt gtg ctg agc cgg tcg ctg ccg ctc		1865
Tyr Val Asp Asp Val Phe Leu Arg Val Leu Ser Arg Ser Leu Pro Leu		
540	545	550
ttc ctg acg ctg gcc tgg atc tac tcc gtg aca ctg aca gtg aag gcc		1913
Phe Leu Thr Leu Ala Trp Ile Tyr Ser Val Thr Leu Thr Val Lys Ala		
555	560	565
gtg gtg cgg gag aag gag acg cgg ctg cgg gac acc atg cgc gcc atg		1961
Val Val Arg Glu Lys Glu Thr Arg Leu Arg Asp Thr Met Arg Ala Met		
570	575	580
ggg ctc agc cgc gcg gtg ctc tgg cta ggc tgg ttc ctc agc tgc ctc		2009
Gly Leu Ser Arg Ala Val Leu Trp Leu Gly Trp Phe Leu Ser Cys Leu		
585	590	595
600		

FIG. 2D

ggg ccc ttc ctg ctc agc gcc gcg ctg gtt ctg gtg ctc aag ctg	2057		
Gly Pro Phe Leu Leu Ser Ala Ala Leu Leu Val Leu Val Leu Lys Leu			
605	610	615	
ggg gac atc ctc ccc tac agc cac ccg ggc gtg gtc ttc ctg ttc ttg	2105		
Gly Asp Ile Leu Pro Tyr Ser His Pro Gly Val Val Phe Leu Phe Leu			
620	625	630	
gca gcc ttc gcg gtg gcc acg gtg acc cag agc ttc ctg ctc agc gcc	2153		
Ala Ala Phe Ala Val Ala Thr Val Thr Gln Ser Phe Leu Leu Ser Ala			
635	640	645	
ttc ttc tcc cgc gcc aac ctg gct gcg gcc tgc ggc ggc ctg gcc tac	2201		
Phe Phe Ser Arg Ala Asn Leu Ala Ala Ala Cys Gly Gly Leu Ala Tyr			
650	655	660	
ttc tcc ctc tac ctg ccc tac gtg ctg tgt gtg gct tgg cgg gac cgg	2249		
Phe Ser Leu Tyr Leu Pro Tyr Val Leu Cys Val Ala Trp Arg Asp Arg			
665	670	675	680
ctg ccc gcg ggt ggc cgc gtg gcc gcg agc ctg ctg tcg ccc gtg gcc	2297		
Leu Pro Ala Gly Gly Arg Val Ala Ala Ser Leu Leu Ser Pro Val Ala			
685	690	695	
ttc ggc ttc ggc tgc gag agc ctg gct ctg ctg gag gag cag ggc gag	2345		
Phe Gly Phe Gly Cys Glu Ser Leu Ala Leu Leu Glu Glu Gln Gly Glu			
700	705	710	
ggc gcg cag tgg cac aac gtg ggc acc cgg cct acg gca gac gtc ttc	2393		
Gly Ala Gln Trp His Asn Val Gly Thr Arg Pro Thr Ala Asp Val Phe			
715	720	725	
agc ctg gcc cag gtc tct ggc ctt ctg ctg gac gcg gcg ctc tac	2441		
Ser Leu Ala Gln Val Ser Gly Leu Leu Leu Asp Ala Ala Leu Tyr			
730	735	740	
ggc ctc gcc acc tgg tac ctg gaa gct gtg tgc cca ggc cag tac ggg	2489		
Gly Leu Ala Thr Trp Tyr Leu Glu Ala Val Cys Pro Gly Gln Tyr Gly			
745	750	755	760
atc cct gaa cca tgg aat ttt cct ttt cgg agg agc tac tgg tgc gga	2537		
Ile Pro Glu Pro Trp Asn Phe Pro Phe Arg Arg Ser Tyr Trp Cys Gly			
765	770	775	
cct cgg ccc ccc aag agt cca gcc cct tgc ccc acc ccc ctg gac cca	2585		
Pro Arg Pro Pro Lys Ser Pro Ala Pro Cys Pro Thr Pro Leu Asp Pro			
780	785	790	
aag gtg ctg gta gaa gag gca ccg ccc ggc ctg agt cct ggc gta tcc	2633		
Lys Val Leu Val Glu Glu Ala Pro Pro Gly Leu Ser Pro Gly Val Ser			
795	800	805	

FIG. 2E

gtt cgc agc ctg gag aag cgc ttt cct gga agc ccg cag cca gcc ctg		2681	
Val Arg Ser Leu Glu Lys Arg Phe Pro Gly Ser Pro Gln Pro Ala Leu			
810	815	820	
cg ^g ggg ctc agc ctg gac ttc tac cag ggc cac atc acc gcc ttc ctg		2729	
Arg Gly Leu Ser Leu Asp Phe Tyr Gln Gly His Ile Thr Ala Phe Leu			
825	830	835	840
g ^g c cac aac g ^g g g ^g c g ^g c aag acc acc acc ctg tcc atc ttg agt g ^g c		2777	
Gly His Asn Gly Ala Gly Lys Thr Thr Leu Ser Ile Leu Ser Gly			
845	850	855	
ctc ttc cca ccc agt ggt ggc tct gcc ttc atc ctg ggc cac gac gtc		2825	
Leu Phe Pro Pro Ser Gly Gly Ser Ala Phe Ile Leu Gly His Asp Val			
860	865	870	
cg ^c tcc agc atg gcc g ^c c atc c ^g g c ^c c cac ctg g ^g c g ^{tc} tgt cct c ^g ag		2873	
Arg Ser Ser Met Ala Ala Ile Arg Pro His Leu Gly Val Cys Pro Gln			
875	880	885	
ta ^c aac gt ^g ctg ttt gac atg ctg acc gt ^g gac gag cac g ^{tc} tgg ttc		2921	
Tyr Asn Val Leu Phe Asp Met Leu Thr Val Asp Glu His Val Trp Phe			
890	895	900	
ta ^t g ^g g c ^g g ctg aag g ^g t ctg agt g ^c c g ^c t gta gt ^g g ^g c c ^{cc} c gag c ^{ag}		2969	
Tyr Gly Arg Leu Lys Gly Leu Ser Ala Ala Val Val Gly Pro Glu Gln			
905	910	915	920
ga ^c c ^{gt} ctg ctg c ^{ag} gat gt ^g g ^g g ctg g ^{tc} tcc aag c ^{ag} agt gt ^g c ^{ag}		3017	
Asp Arg Leu Leu Gln Asp Val Gly Leu Val Ser Lys Gln Ser Val Gln			
925	930	935	
act cgc cac ctc tct ggt g ^g g atg c ^{aa} c ^{gg} aag ctg tcc gt ^g g ^{cc} att		3065	
Thr Arg His Leu Ser Gly Gly Met Gln Arg Lys Leu Ser Val Ala Ile			
940	945	950	
g ^{cc} ttt gt ^g g ^g g g ^g c tcc c ^{aa} g ^{tt} g ^{tt} atc ctg gac gag c ^c t ac ^g g ^c t		3113	
Ala Phe Val Gly Gly Ser Gln Val Val Ile Leu Asp Glu Pro Thr Ala			
955	960	965	
gg ^c gt ^g gat c ^c t g ^c t c ^g c c ^g c g ^{gt} t att t ^{gg} g ^{ag} ct ^g ct ^g ct ^c aaa		3161	
Gly Val Asp Pro Ala Ser Arg Arg Gly Ile Trp Glu Leu Leu Leu Lys			
970	975	980	
ta ^c c ^{ga} gaa g ^{gt} c ^{gc} ac ^g ct ^g at ^c c ^{tc} tcc acc cac cac ctg gat gag		3209	
Tyr Arg Glu Gly Arg Thr Leu Ile Leu Ser Thr His His Leu Asp Glu			
985	990	995	1000
g ^{ca} gag ctg ctg g ^{ga} gac c ^{gt} gt ^g g ^c t gt ^g g ^{tc} g ^{ca} g ^{gt} g ^g c c ^{gc} tt ^g		3257	
Ala Glu Leu Leu Gly Asp Arg Val Ala Val Val Ala Gly Gly Arg Leu			
1005	1010	1015	

FIG. 2F

tgc tgc tgt ggc tcc cca ctc ttc ctg cgc cgt cac ctg ggc tcc ggc	3305		
Cys Cys Cys Gly Ser Pro Leu Phe Leu Arg Arg His Leu Gly Ser Gly			
1020	1025	1030	
tac tac ctg acg ctg gtg aag gcc cgc ctg ccc ctg acc acc aat gag	3353		
Tyr Tyr Leu Thr Leu Val Lys Ala Arg Leu Pro Leu Thr Thr Asn Glu			
1035	1040	1045	
aag gct gac act gac atg gag ggc agt gtg gac acc agg cag gaa aag	3401		
Lys Ala Asp Thr Asp Met Glu Gly Ser Val Asp Thr Arg Gln Glu Lys			
1050	1055	1060	
aag aat ggc agc cag ggc agc aga gtc ggc act cct cag ctg ctg gcc	3449		
Lys Asn Gly Ser Gln Gly Ser Arg Val Gly Thr Pro Gln Leu Leu Ala			
1065	1070	1075	1080
ctg gta cag cac tgg gtg ccc ggg gca cgg ctg gtg gag gag ctg cca	3497		
Leu Val Gln His Trp Val Pro Gly Ala Arg Leu Val Glu Glu Leu Pro			
1085	1090	1095	
cac gag ctg gtg ctg gtg ccc tac acg ggt gcc cat gac ggc agc	3545		
His Glu Leu Val Leu Val Pro Tyr Thr Gly Ala His Asp Gly Ser			
1100	1105	1110	
ttc gcc aca ctc ttc cga gag cta gac acg cgg ctg gcg gag ctg agg	3593		
Phe Ala Thr Leu Phe Arg Glu Leu Asp Thr Arg Leu Ala Glu Leu Arg			
1115	1120	1125	
ctc act ggc tac ggg atc tcc gac acc agc ctc gag gag atc ttc ctg	3641		
Leu Thr Gly Tyr Gly Ile Ser Asp Thr Ser Leu Glu Glu Ile Phe Leu			
1130	1135	1140	
aag gtg gtg gag gag tgt gct gcg gac aca gat atg gag gat ggc agc	3689		
Lys Val Val Glu Glu Cys Ala Ala Asp Thr Asp Met Glu Asp Gly Ser			
1145	1150	1155	1160
tgc ggg cag cac cta tgc aca ggc att gct ggc cta gac gta acc ctg	3737		
Cys Gly Gln His Leu Cys Thr Gly Ile Ala Gly Leu Asp Val Thr Leu			
1165	1170	1175	
cgg ctc aag atg ccg cca cag gag aca gcg ctg gag aac ggg gaa cca	3785		
Arg Leu Lys Met Pro Pro Gln Glu Thr Ala Leu Glu Asn Gly Glu Pro			
1180	1185	1190	
gct ggg tca gcc cca gag act gac cag ggc tct ggg cca gac gcc gtg	3833		
Ala Gly Ser Ala Pro Glu Thr Asp Gln Gly Ser Gly Pro Asp Ala Val			
1195	1200	1205	
ggc cgg gta cag ggc tgg gca ctg acc cgc cag cag ctc cag gcc ctg	3881		
Gly Arg Val Gln Gly Trp Ala Leu Thr Arg Gln Gln Leu Gln Ala Leu			
1210	1215	1220	

FIG. 2G

ctt ctc aag cgc ttt ctg ctt gcc cgc cgc agc cgc cgc ggc ctg ttc Leu Leu Lys Arg Phe Leu Leu Ala Arg Arg Ser Arg Arg Gly Leu Phe 1225 1230 1235 1240	3929
gcc cag atc gtg ctg cct gcc ctc ttt gtg ggc ctg gcc ctc gtg ttc Ala Gln Ile Val Leu Pro Ala Leu Phe Val Gly Leu Ala Leu Val Phe 1245 1250 1255	3977
agc ctc atc gtg cct ctc ttc ggg cac tac ccg gct ctg cgg ctc agt Ser Leu Ile Val Pro Pro Phe Gly His Tyr Pro Ala Leu Arg Leu Ser 1260 1265 1270	4025
ccc acc atg tac ggt gct cag gtg tcc ttc ttc agt gag gac gcc cca Pro Thr Met Tyr Gly Ala Gln Val Ser Phe Phe Ser Glu Asp Ala Pro 1275 1280 1285	4073
ggg gac cct gga cgt gcc cgg ctg ctc gag gcg ctg ctg cag gag gca Gly Asp Pro Gly Arg Ala Arg Leu Leu Glu Ala Leu Leu Gln Glu Ala 1290 1295 1300	4121
gga ctg gag gag ccc cca gtg cag cat agc tcc cac agg ttc tcg gca Gly Leu Glu Glu Pro Pro Val Gln His Ser Ser His Arg Phe Ser Ala 1305 1310 1315 1320	4169
cca gaa gtt cct gct gaa gtg gcc aag gtc ttg gcc agt ggc aac tgg Pro Glu Val Pro Ala Glu Val Ala Lys Val Leu Ala Ser Gly Asn Trp 1325 1330 1335	4217
acc cca gag tct cca tcc cca gcc tgc cag tgt agc cag ccc ggt gcc Thr Pro Glu Ser Pro Ser Pro Ala Cys Gln Cys Ser Gln Pro Gly Ala 1340 1345 1350	4265
cgg cgc ctg ctg ccc gac tgc ccg gct gca gct ggt ggt ccc cct ccg Arg Arg Leu Leu Pro Asp Cys Pro Ala Ala Gly Gly Pro Pro Pro 1355 1360 1365	4313
ccc cag gca gtg acc ggc tct ggg gaa gtg gtt cag aac ctg aca ggc Pro Gln Ala Val Thr Gly Ser Gly Glu Val Val Gln Asn Leu Thr Gly 1370 1375 1380	4361
cgg aac ctg tct gac ttc ctg gtc aag acc tac ccg cgc ctg gtg cgc Arg Asn Leu Ser Asp Phe Leu Val Lys Thr Tyr Pro Arg Leu Val Arg 1385 1390 1395 1400	4409
cag ggc ctg aag act aag aag tgg gtg aat gag gtc agg tac gga ggc Gln Gly Leu Lys Thr Lys Lys Trp Val Asn Glu Val Arg Tyr Gly Gly 1405 1410 1415	4457
ttc tcg ctg ggg ggc cga gac cca ggc ctg ccc tcg ggc caa gag ttg Phe Ser Leu Gly Gly Arg Asp Pro Gly Leu Pro Ser Gly Gln Glu Leu 1420 1425 1430	4505

FIG. 2H

ggc cgc tca gtg gag gag ttg tgg gcg ctg ctg agt ccc ctg cct ggc	4553
Gly Arg Ser Val Glu Glu Leu Trp Ala Leu Leu Ser Pro Leu Pro Gly	
1435 1440 1445	
ggg gcc ctc gac cgt gtc ctg aaa aac ctc aca gcc tgg gct cac agc	4601
Gly Ala Leu Asp Arg Val Leu Lys Asn Leu Thr Ala Trp Ala His Ser	
1450 1455 1460	
ctg gat gct cag gac agt ctc aag atc tgg ttc aac aac aaa ggc tgg	4649
Leu Asp Ala Gln Asp Ser Leu Lys Ile Trp Phe Asn Asn Lys Gly Trp	
1465 1470 1475 1480	
cac tcc atg gtg gcc ttt gtc aac cga gcc agc aac gca atc ctc cgt	4697
His Ser Met Val Ala Phe Val Asn Arg Ala Ser Asn Ala Ile Leu Arg	
1485 1490 1495	
gct cac ctg ccc cca ggc ccg gcc cgc cac gcc cac agc atc acc aca	4745
Ala His Leu Pro Pro Gly Pro Ala Arg His Ala His Ser Ile Thr Thr	
1500 1505 1510	
ctc aac cac ccc ttg aac ctc acc aag gag cag ctg tct gag got gca	4793
Leu Asn His Pro Leu Asn Leu Thr Lys Glu Gln Leu Ser Glu Ala Ala	
1515 1520 1525	
ctg atg gcc tcc tcg gtg gac gtc ctc gtc tcc atc tgt gtg gtc ttt	4841
Leu Met Ala Ser Ser Val Asp Val Leu Val Ser Ile Cys Val Val Phe	
1530 1535 1540	
gcc atg tcc ttt gtc ccg gcc agc ttc act ctt gtc ctc att gag gag	4889
Ala Met Ser Phe Val Pro Ala Ser Phe Thr Leu Val Leu Ile Glu Glu	
1545 1550 1555 1560	
cga gtc acc cga gcc aag cac ctg cag ctc atg ggg ggc ctg tcc ccc	4937
Arg Val Thr Arg Ala Lys His Leu Gln Leu Met Gly Gly Leu Ser Pro	
1565 1570 1575	
acc ctc tac tgg ctt ggc aac ttt ctc tgg gac atg tgt aac tac ttg	4985
Thr Leu Tyr Trp Leu Gly Asn Phe Leu Trp Asp Met Cys Asn Tyr Leu	
1580 1585 1590	
gtg cca gca tgc atc gtg gtg ctc atc ttt ctg gcc ttc cag cag agg	5033
Val Pro Ala Cys Ile Val Val Leu Ile Phe Leu Ala Phe Gln Gln Arg	
1595 1600 1605	
gca tat gtg gcc cct gcc aac ctg cct gct ctc ctg ctg ttg cta cta	5081
Ala Tyr Val Ala Pro Ala Asn Leu Pro Ala Leu Leu Leu Leu Leu	
1610 1615 1620	
ctg tat ggc tgg tcg atc aca ccg ctc atg tac cca gcc tcc ttc ttc	5129
Leu Tyr Gly Trp Ser Ile Thr Pro Leu Met Tyr Pro Ala Ser Phe Phe	
1625 1630 1635 1640	

FIG. 2I

ttc tcc gtg ccc agc aca gcc tat gtg gtg ctc acc tgc ata aac ctc Phe Ser Val Pro Ser Thr Ala Tyr Val Val Leu Thr Cys Ile Asn Leu	1645	1650	1655	5177	
ttt att ggc atc aat gga agc atg gcc acc ttt gtg ctt gag ctc ttc Phe Ile Gly Ile Asn Gly Ser Met Ala Thr Phe Val Leu Glu Leu Phe	1660	1665	1670	5225	
tct gat cag aag ctg cag gag gtg agc cgg atc ttg aaa cag gtc ttc Ser Asp Gln Lys Leu Gln Glu Val Ser Arg Ile Leu Lys Gln Val Phe	1675	1680	1685	5273	
ctt atc ttc ccc cac ttc tgc ttg ggc cgg ggg ctc att gac atg gtg Leu Ile Phe Pro His Phe Cys Leu Gly Arg Gly Leu Ile Asp Met Val	1690	1695	1700	5321	
cgg aac cag gcc atg gct gat gcc ttt gag cgc ttg gga gac agg cag Arg Asn Gln Ala Met Ala Asp Ala Phe Glu Arg Leu Gly Asp Arg Gln	1705	1710	1715	1720	5369
ttc cag tca ccc ctg cgc tgg gag gtg gtc ggc aag aac ctc ttg gcc Phe Gln Ser Pro Leu Arg Trp Glu Val Val Gly Lys Asn Leu Leu Ala	1725	1730	1735	5417	
atg gtg ata cag ggg ccc ctc ttc ctt ctc ttc aca cta ctg ctg cag Met Val Ile Gln Gly Pro Leu Phe Leu Leu Phe Thr Leu Leu Gln	1740	1745	1750	5465	
cac cga agc caa ctc ctg cca cag ccc agg gtg agg tct ctg cca ctc His Arg Ser Gln Leu Leu Pro Gln Pro Arg Val Arg Ser Leu Pro Leu	1755	1760	1765	5513	
ctg gga gag gag gac gag gat gta gcc cgt gaa cgg gag cgg gtg gtc Leu Gly Glu Glu Asp Glu Asp Val Ala Arg Glu Arg Glu Arg Val Val	1770	1775	1780	5561	
caa gga gcc acc cag ggg gat gtg ttg gtg ctg agg aac ttg acc aag Gln Gly Ala Thr Gln Gly Asp Val Leu Val Leu Arg Asn Leu Thr Lys	1785	1790	1795	1800	5609
gta tac cgt ggg cag agg atg cca gct gtt gac cgc ttg tgc ctg ggg Val Tyr Arg Gly Gln Arg Met Pro Ala Val Asp Arg Leu Cys Leu Gly	1805	1810	1815	5657	
att ccc cct ggt gag tgt ttt ggg ctg ctg ggt gtg aat gga gca ggg Ile Pro Pro Gly Glu Cys Phe Gly Leu Leu Gly Val Asn Gly Ala Gly	1820	1825	1830	5705	
aag acg tcc acg ttt cgc atg gtg acg ggg gac aca ttg gcc agc agg Lys Thr Ser Thr Phe Arg Met Val Thr Gly Asp Thr Leu Ala Ser Arg	1835	1840	1845	5753	

FIG. 2J

ggc gag gct gtg ctg gca ggc cac agc gtg gcc cg ^g gaa ccc agt gct		5801
Gly Glu Ala Val Leu Ala Gly His Ser Val Ala Arg Glu Pro Ser Ala		
1850	1855	1860
g ^g cgc cac ctc agc atg gga tac tgc cct caa tcc gat gcc atc ttt gag		5849
Ala His Leu Ser Met Gly Tyr Cys Pro Gln Ser Asp Ala Ile Phe Glu		
1865	1870	1875
ctg ctg acg ggc cgc gag cac ctg gag ctg ctt g ^g cgc ctg cgc ggt		5897
Leu Leu Thr Gly Arg Glu His Leu Glu Leu Leu Ala Arg Leu Arg Gly		
1885	1890	1895
g ^{tc} ccg gag gcc cag gtt gcc cag acc gct ggc tca ggc ctg g ^g cgt		5945
Val Pro Glu Ala Gln Val Ala Gln Thr Ala Gly Ser Gly Leu Ala Arg		
1900	1905	1910
ctg gga ctc tca tgg tac gca gac cgg cct gca ggc acc tac agc gga		5993
Leu Gly Leu Ser Trp Tyr Ala Asp Arg Pro Ala Gly Thr Tyr Ser Gly		
1915	1920	1925
ggg aac aaa cgc aag ctg g ^g acg gcc ctg g ^g ctg gtt ggg gac cca		6041
Gly Asn Lys Arg Lys Leu Ala Thr Ala Leu Ala Leu Val Gly Asp Pro		
1930	1935	1940
g ^{cc} gtg gtg ttt ctg gac gag c ^g acc aca ggc atg gac ccc agc g ^g		6089
Ala Val Val Phe Leu Asp Glu Pro Thr Thr Gly Met Asp Pro Ser Ala		
1945	1950	1955
cg ^g cgc ttc ctt tgg aac agc ctt ttg g ^{cc} gtg gtg cgg gag ggc cgt		6137
Arg Arg Phe Leu Trp Asn Ser Leu Leu Ala Val Val Arg Glu Gly Arg		
1965	1970	1975
tca gtg atg ctc acc tcc cat agc atg gag gag tgt gaa g ^g ctc tgc		6185
Ser Val Met Leu Thr Ser His Ser Met Glu Glu Cys Glu Ala Leu Cys		
1980	1985	1990
tcg cgc cta gcc atc atg gtg aat ggg cgg ttc cgc tgc ctg ggc agc		6233
Ser Arg Leu Ala Ile Met Val Asn Gly Arg Phe Arg Cys Leu Gly Ser		
1995	2000	2005
ccg caa cat ctc aag ggc aga ttc g ^g cgc g ^g ggt cac aca ctg acc ctg		6281
Pro Gln His Leu Lys Gly Arg Phe Ala Ala Gly His Thr Leu Thr Leu		
2010	2015	2020
cg ^g gtg ccc gcc gca agg tcc cag c ^g gca g ^g cgc g ^{cc} ttc gtg g ^g g ^{cc}		6329
Arg Val Pro Ala Ala Arg Ser Gln Pro Ala Ala Ala Phe Val Ala Ala		
2025	2030	2035
gag ttc cct ggg tcg gag ctg cgc gag gca cat gga ggc cgc ctg cgc		6377
Glu Phe Pro Gly Ser Glu Leu Arg Glu Ala His Gly Gly Arg Leu Arg		
2045	2050	2055

FIG. 2K

ttc cag ctg ccg ccg gga ggg cgc tgc gcc ctg gcg cgc gtc ttt gga	6425		
Phe Gln Leu Pro Pro Gly Gly Arg Cys Ala Leu Ala Arg Val Phe Gly			
2060	2065	2070	
gag ctg gcg gtg cac ggc gca gag cac ggc gtg gag gac ttt tcc gtg	6473		
Glu Leu Ala Val His Gly Ala Glu His Gly Val Glu Asp Phe Ser Val			
2075	2080	2085	
agc cag acg atg ctg gag gag gta ttc ttg tac ttc tcc aag gac cag	6521		
Ser Gln Thr Met Leu Glu Glu Val Phe Leu Tyr Phe Ser Lys Asp Gln			
2090	2095	2100	
ggg aag gac gag gac acc gaa gag cag aag gag gca gga gtg gga gtg	6569		
Gly Lys Asp Glu Asp Thr Glu Glu Gln Lys Glu Ala Gly Val Gly Val			
2105	2110	2115	2120
gac ccc gcg cca ggc ctg cag cac ccc aaa cgc gtc agc cag ttc ctc	6617		
Asp Pro Ala Pro Gly Leu Gln His Pro Lys Arg Val Ser Gln Phe Leu			
2125	2130	2135	
gat gac cct agc act gcc gag act gtg ctc tga gcctccctcc cctgcggggc	6670		
Asp Asp Pro Ser Thr Ala Glu Thr Val Leu			
2140	2145		
cgcggggagg ccctggaat ggcaaggca agtagatgt cctaggagcc ctggactcag	6730		
gctggcagag gggctggc cctggagaaa ataaagagaa ggctggagag aagccgtgct	6790		
ggtaaaaaaa aaaa	6804		

FIG. 3A

atg gtc tgc ctg gga act ggc cag agc gct gga ccc cta gtg agt gtt	48
Met Val Cys Leu Gly Thr Gly Gln Ser Ala Gly Pro Leu Val Ser Val	
1 5 10 15	
caa aat cat tgt ccc cct tgt ggt ctt tct ccc cag gaa tcc ctg ggg	96
Gln Asn His Cys Pro Pro Cys Gly Leu Ser Pro Gln Glu Ser Leu Gly	
20 25 30	
ttg gca ctg ggc caa gcc cag gag ccc ttg cac agc ttg ttg gag gcc	144
Leu Ala Leu Gly Gln Ala Gln Glu Pro Leu His Ser Leu Leu Glu Ala	
35 40 45	
gct ggg gac ctg gcc cag gag ctc ctg gcg ctg cgc agc ctg gtg gag	192
Ala Gly Asp Leu Ala Gln Glu Leu Leu Ala Leu Arg Ser Leu Val Glu	
50 55 60	
ctt cgg gca ctg ctg cag aga ccc cga ggg acc agc ggc ccc ctg gag	240
Leu Arg Ala Leu Leu Gln Arg Pro Arg Gly Thr Ser Gly Pro Leu Glu	
65 70 75 80	
ttg ctg tca gag gcc ctc tgc agt gtc agg gga cct agc agc aca gtg	288
Leu Leu Ser Glu Ala Leu Cys Ser Val Arg Gly Pro Ser Ser Thr Val	
85 90 95	
ggc ccc tcc ctc aac tgg tac gag gct agt gac ctg atg gag ctg gtg	336
Gly Pro Ser Leu Asn Trp Tyr Glu Ala Ser Asp Leu Met Glu Leu Val	
100 105 110	
ggg cag gag cca gaa tcc gcc ctg cca gac agc agc ctg agc ccc gcc	384
Gly Gln Glu Pro Glu Ser Ala Leu Pro Asp Ser Ser Leu Ser Pro Ala	
115 120 125	
tgc tcg gag ctg att gga gcc ctg gac agc cac ccg ctg tcc cgc ctg	432
Cys Ser Glu Leu Ile Gly Ala Leu Asp Ser His Pro Leu Ser Arg Leu	
130 135 140	
ctc tgg aga cgc ctg aag cct ctg atc ctc ggg aag cta ctc ttt gca	480
Leu Trp Arg Arg Leu Lys Pro Leu Ile Leu Gly Lys Leu Leu Phe Ala	
145 150 155 160	
cca gat aca cct ttt acc cgg aag ctc atg gcc cag gtg aac cgg acc	528
Pro Asp Thr Pro Phe Thr Arg Lys Leu Met Ala Gln Val Asn Arg Thr	
165 170 175	
ttc gag gag ctc acc ctg ctg agg gat gtc cgg gag gtg tgg gag atg	576
Phe Glu Glu Leu Thr Leu Leu Arg Asp Val Arg Glu Val Trp Glu Met	
180 185 190	
ctg gga ccc cgg atc ttc acc ttc atg aac gac agt tcc aat gtg gcc	624
Leu Gly Pro Arg Ile Phe Thr Phe Met Asn Asp Ser Ser Asn Val Ala	
195 200 205	

FIG. 3B

atg ctg cag cgg ctc ctg cag atg cag gat gaa gga aga agg cag ccc	672																																																																																																		
Met Leu Gln Arg Leu Leu Gln Met Gln Asp Glu Gly Arg Arg Gln Pro																																																																																																			
210	215	220		aga cct gga ggc cgg gac cac atg gag gcc ctg cga tcc ttt ctg gac	720	Arg Pro Gly Gly Arg Asp His Met Glu Ala Leu Arg Ser Phe Leu Asp		225	230	235	240	cct ggg agc ggt ggc tac agc tgg cag gac gca cac gct gat gtg ggg	768	Pro Gly Ser Gly Gly Tyr Ser Trp Gln Asp Ala His Ala Asp Val Gly		245	250	255		cac ctg gtg ggc acg ctg ggc cga gtg acg gag tgc ctg tcc ttg gac	816	His Leu Val Gly Thr Leu Gly Arg Val Thr Glu Cys Leu Ser Leu Asp		260	265	270		aag ctg gag gcg gca ccc tca gag gca gcc ctg gtg tcg cgg gcc ctg	864	Lys Leu Glu Ala Ala Pro Ser Glu Ala Ala Leu Val Ser Arg Ala Leu		275	280	285		caa ctg ctc gcg gaa cat cga ttc tgg gcc ggc gtc gtc ttc ttg gga	912	Gln Leu Leu Ala Glu His Arg Phe Trp Ala Gly Val Val Phe Leu Gly		290	295	300		cct gag gac tct tca gac ccc aca gag cac cca acc cca gac ctg ggc	960	Pro Glu Asp Ser Ser Asp Pro Thr Glu His Pro Thr Pro Asp Leu Gly		305	310	315	320	ccc ggc cac gtg cgc atc aaa atc cgc atg gac att gac gtg gtc acg	1008	Pro Gly His Val Arg Ile Lys Ile Arg Met Asp Ile Asp Val Val Thr		325	330	335		agg acc aat aag atc agg gac agg ttt tgg gac cct ggc cca gcc gcg	1056	Arg Thr Asn Lys Ile Arg Asp Arg Phe Trp Asp Pro Gly Pro Ala Ala		340	345	350		gac ccc ctg acc gac ctg cgc tac gtg tgg ggc ggc ttc gtg tac ctg	1104	Asp Pro Leu Thr Asp Leu Arg Tyr Val Trp Gly Gly Phe Val Tyr Leu		355	360	365		caa gac ctg gtg gag cgt gca gcc gtc cgc gtg ctc agc ggc gcc aac	1152	Gln Asp Leu Val Glu Arg Ala Ala Val Arg Val Leu Ser Gly Ala Asn		370	375	380		ccc cgg gcc ggc ctc tac ctg cag cag atg ccc tat ccg tgc tat gtg	1200	Pro Arg Ala Gly Leu Tyr Leu Gln Gln Met Pro Tyr Pro Cys Tyr Val		385	390	395	400	gac gac gtg ttc ctg cgt gtg ctg agc cgg tcg ctg ccg ctc ttc ctg	1248	Asp Asp Val Phe Leu Arg Val Leu Ser Arg Ser Leu Pro Leu Phe Leu		405	410	415	
220																																																																																																			
aga cct gga ggc cgg gac cac atg gag gcc ctg cga tcc ttt ctg gac	720																																																																																																		
Arg Pro Gly Gly Arg Asp His Met Glu Ala Leu Arg Ser Phe Leu Asp																																																																																																			
225	230	235	240	cct ggg agc ggt ggc tac agc tgg cag gac gca cac gct gat gtg ggg	768	Pro Gly Ser Gly Gly Tyr Ser Trp Gln Asp Ala His Ala Asp Val Gly		245	250	255		cac ctg gtg ggc acg ctg ggc cga gtg acg gag tgc ctg tcc ttg gac	816	His Leu Val Gly Thr Leu Gly Arg Val Thr Glu Cys Leu Ser Leu Asp		260	265	270		aag ctg gag gcg gca ccc tca gag gca gcc ctg gtg tcg cgg gcc ctg	864	Lys Leu Glu Ala Ala Pro Ser Glu Ala Ala Leu Val Ser Arg Ala Leu		275	280	285		caa ctg ctc gcg gaa cat cga ttc tgg gcc ggc gtc gtc ttc ttg gga	912	Gln Leu Leu Ala Glu His Arg Phe Trp Ala Gly Val Val Phe Leu Gly		290	295	300		cct gag gac tct tca gac ccc aca gag cac cca acc cca gac ctg ggc	960	Pro Glu Asp Ser Ser Asp Pro Thr Glu His Pro Thr Pro Asp Leu Gly		305	310	315	320	ccc ggc cac gtg cgc atc aaa atc cgc atg gac att gac gtg gtc acg	1008	Pro Gly His Val Arg Ile Lys Ile Arg Met Asp Ile Asp Val Val Thr		325	330	335		agg acc aat aag atc agg gac agg ttt tgg gac cct ggc cca gcc gcg	1056	Arg Thr Asn Lys Ile Arg Asp Arg Phe Trp Asp Pro Gly Pro Ala Ala		340	345	350		gac ccc ctg acc gac ctg cgc tac gtg tgg ggc ggc ttc gtg tac ctg	1104	Asp Pro Leu Thr Asp Leu Arg Tyr Val Trp Gly Gly Phe Val Tyr Leu		355	360	365		caa gac ctg gtg gag cgt gca gcc gtc cgc gtg ctc agc ggc gcc aac	1152	Gln Asp Leu Val Glu Arg Ala Ala Val Arg Val Leu Ser Gly Ala Asn		370	375	380		ccc cgg gcc ggc ctc tac ctg cag cag atg ccc tat ccg tgc tat gtg	1200	Pro Arg Ala Gly Leu Tyr Leu Gln Gln Met Pro Tyr Pro Cys Tyr Val		385	390	395	400	gac gac gtg ttc ctg cgt gtg ctg agc cgg tcg ctg ccg ctc ttc ctg	1248	Asp Asp Val Phe Leu Arg Val Leu Ser Arg Ser Leu Pro Leu Phe Leu		405	410	415									
235	240																																																																																																		
cct ggg agc ggt ggc tac agc tgg cag gac gca cac gct gat gtg ggg	768																																																																																																		
Pro Gly Ser Gly Gly Tyr Ser Trp Gln Asp Ala His Ala Asp Val Gly																																																																																																			
245	250	255		cac ctg gtg ggc acg ctg ggc cga gtg acg gag tgc ctg tcc ttg gac	816	His Leu Val Gly Thr Leu Gly Arg Val Thr Glu Cys Leu Ser Leu Asp		260	265	270		aag ctg gag gcg gca ccc tca gag gca gcc ctg gtg tcg cgg gcc ctg	864	Lys Leu Glu Ala Ala Pro Ser Glu Ala Ala Leu Val Ser Arg Ala Leu		275	280	285		caa ctg ctc gcg gaa cat cga ttc tgg gcc ggc gtc gtc ttc ttg gga	912	Gln Leu Leu Ala Glu His Arg Phe Trp Ala Gly Val Val Phe Leu Gly		290	295	300		cct gag gac tct tca gac ccc aca gag cac cca acc cca gac ctg ggc	960	Pro Glu Asp Ser Ser Asp Pro Thr Glu His Pro Thr Pro Asp Leu Gly		305	310	315	320	ccc ggc cac gtg cgc atc aaa atc cgc atg gac att gac gtg gtc acg	1008	Pro Gly His Val Arg Ile Lys Ile Arg Met Asp Ile Asp Val Val Thr		325	330	335		agg acc aat aag atc agg gac agg ttt tgg gac cct ggc cca gcc gcg	1056	Arg Thr Asn Lys Ile Arg Asp Arg Phe Trp Asp Pro Gly Pro Ala Ala		340	345	350		gac ccc ctg acc gac ctg cgc tac gtg tgg ggc ggc ttc gtg tac ctg	1104	Asp Pro Leu Thr Asp Leu Arg Tyr Val Trp Gly Gly Phe Val Tyr Leu		355	360	365		caa gac ctg gtg gag cgt gca gcc gtc cgc gtg ctc agc ggc gcc aac	1152	Gln Asp Leu Val Glu Arg Ala Ala Val Arg Val Leu Ser Gly Ala Asn		370	375	380		ccc cgg gcc ggc ctc tac ctg cag cag atg ccc tat ccg tgc tat gtg	1200	Pro Arg Ala Gly Leu Tyr Leu Gln Gln Met Pro Tyr Pro Cys Tyr Val		385	390	395	400	gac gac gtg ttc ctg cgt gtg ctg agc cgg tcg ctg ccg ctc ttc ctg	1248	Asp Asp Val Phe Leu Arg Val Leu Ser Arg Ser Leu Pro Leu Phe Leu		405	410	415																	
255																																																																																																			
cac ctg gtg ggc acg ctg ggc cga gtg acg gag tgc ctg tcc ttg gac	816																																																																																																		
His Leu Val Gly Thr Leu Gly Arg Val Thr Glu Cys Leu Ser Leu Asp																																																																																																			
260	265	270		aag ctg gag gcg gca ccc tca gag gca gcc ctg gtg tcg cgg gcc ctg	864	Lys Leu Glu Ala Ala Pro Ser Glu Ala Ala Leu Val Ser Arg Ala Leu		275	280	285		caa ctg ctc gcg gaa cat cga ttc tgg gcc ggc gtc gtc ttc ttg gga	912	Gln Leu Leu Ala Glu His Arg Phe Trp Ala Gly Val Val Phe Leu Gly		290	295	300		cct gag gac tct tca gac ccc aca gag cac cca acc cca gac ctg ggc	960	Pro Glu Asp Ser Ser Asp Pro Thr Glu His Pro Thr Pro Asp Leu Gly		305	310	315	320	ccc ggc cac gtg cgc atc aaa atc cgc atg gac att gac gtg gtc acg	1008	Pro Gly His Val Arg Ile Lys Ile Arg Met Asp Ile Asp Val Val Thr		325	330	335		agg acc aat aag atc agg gac agg ttt tgg gac cct ggc cca gcc gcg	1056	Arg Thr Asn Lys Ile Arg Asp Arg Phe Trp Asp Pro Gly Pro Ala Ala		340	345	350		gac ccc ctg acc gac ctg cgc tac gtg tgg ggc ggc ttc gtg tac ctg	1104	Asp Pro Leu Thr Asp Leu Arg Tyr Val Trp Gly Gly Phe Val Tyr Leu		355	360	365		caa gac ctg gtg gag cgt gca gcc gtc cgc gtg ctc agc ggc gcc aac	1152	Gln Asp Leu Val Glu Arg Ala Ala Val Arg Val Leu Ser Gly Ala Asn		370	375	380		ccc cgg gcc ggc ctc tac ctg cag cag atg ccc tat ccg tgc tat gtg	1200	Pro Arg Ala Gly Leu Tyr Leu Gln Gln Met Pro Tyr Pro Cys Tyr Val		385	390	395	400	gac gac gtg ttc ctg cgt gtg ctg agc cgg tcg ctg ccg ctc ttc ctg	1248	Asp Asp Val Phe Leu Arg Val Leu Ser Arg Ser Leu Pro Leu Phe Leu		405	410	415																									
270																																																																																																			
aag ctg gag gcg gca ccc tca gag gca gcc ctg gtg tcg cgg gcc ctg	864																																																																																																		
Lys Leu Glu Ala Ala Pro Ser Glu Ala Ala Leu Val Ser Arg Ala Leu																																																																																																			
275	280	285		caa ctg ctc gcg gaa cat cga ttc tgg gcc ggc gtc gtc ttc ttg gga	912	Gln Leu Leu Ala Glu His Arg Phe Trp Ala Gly Val Val Phe Leu Gly		290	295	300		cct gag gac tct tca gac ccc aca gag cac cca acc cca gac ctg ggc	960	Pro Glu Asp Ser Ser Asp Pro Thr Glu His Pro Thr Pro Asp Leu Gly		305	310	315	320	ccc ggc cac gtg cgc atc aaa atc cgc atg gac att gac gtg gtc acg	1008	Pro Gly His Val Arg Ile Lys Ile Arg Met Asp Ile Asp Val Val Thr		325	330	335		agg acc aat aag atc agg gac agg ttt tgg gac cct ggc cca gcc gcg	1056	Arg Thr Asn Lys Ile Arg Asp Arg Phe Trp Asp Pro Gly Pro Ala Ala		340	345	350		gac ccc ctg acc gac ctg cgc tac gtg tgg ggc ggc ttc gtg tac ctg	1104	Asp Pro Leu Thr Asp Leu Arg Tyr Val Trp Gly Gly Phe Val Tyr Leu		355	360	365		caa gac ctg gtg gag cgt gca gcc gtc cgc gtg ctc agc ggc gcc aac	1152	Gln Asp Leu Val Glu Arg Ala Ala Val Arg Val Leu Ser Gly Ala Asn		370	375	380		ccc cgg gcc ggc ctc tac ctg cag cag atg ccc tat ccg tgc tat gtg	1200	Pro Arg Ala Gly Leu Tyr Leu Gln Gln Met Pro Tyr Pro Cys Tyr Val		385	390	395	400	gac gac gtg ttc ctg cgt gtg ctg agc cgg tcg ctg ccg ctc ttc ctg	1248	Asp Asp Val Phe Leu Arg Val Leu Ser Arg Ser Leu Pro Leu Phe Leu		405	410	415																																	
285																																																																																																			
caa ctg ctc gcg gaa cat cga ttc tgg gcc ggc gtc gtc ttc ttg gga	912																																																																																																		
Gln Leu Leu Ala Glu His Arg Phe Trp Ala Gly Val Val Phe Leu Gly																																																																																																			
290	295	300		cct gag gac tct tca gac ccc aca gag cac cca acc cca gac ctg ggc	960	Pro Glu Asp Ser Ser Asp Pro Thr Glu His Pro Thr Pro Asp Leu Gly		305	310	315	320	ccc ggc cac gtg cgc atc aaa atc cgc atg gac att gac gtg gtc acg	1008	Pro Gly His Val Arg Ile Lys Ile Arg Met Asp Ile Asp Val Val Thr		325	330	335		agg acc aat aag atc agg gac agg ttt tgg gac cct ggc cca gcc gcg	1056	Arg Thr Asn Lys Ile Arg Asp Arg Phe Trp Asp Pro Gly Pro Ala Ala		340	345	350		gac ccc ctg acc gac ctg cgc tac gtg tgg ggc ggc ttc gtg tac ctg	1104	Asp Pro Leu Thr Asp Leu Arg Tyr Val Trp Gly Gly Phe Val Tyr Leu		355	360	365		caa gac ctg gtg gag cgt gca gcc gtc cgc gtg ctc agc ggc gcc aac	1152	Gln Asp Leu Val Glu Arg Ala Ala Val Arg Val Leu Ser Gly Ala Asn		370	375	380		ccc cgg gcc ggc ctc tac ctg cag cag atg ccc tat ccg tgc tat gtg	1200	Pro Arg Ala Gly Leu Tyr Leu Gln Gln Met Pro Tyr Pro Cys Tyr Val		385	390	395	400	gac gac gtg ttc ctg cgt gtg ctg agc cgg tcg ctg ccg ctc ttc ctg	1248	Asp Asp Val Phe Leu Arg Val Leu Ser Arg Ser Leu Pro Leu Phe Leu		405	410	415																																									
300																																																																																																			
cct gag gac tct tca gac ccc aca gag cac cca acc cca gac ctg ggc	960																																																																																																		
Pro Glu Asp Ser Ser Asp Pro Thr Glu His Pro Thr Pro Asp Leu Gly																																																																																																			
305	310	315	320	ccc ggc cac gtg cgc atc aaa atc cgc atg gac att gac gtg gtc acg	1008	Pro Gly His Val Arg Ile Lys Ile Arg Met Asp Ile Asp Val Val Thr		325	330	335		agg acc aat aag atc agg gac agg ttt tgg gac cct ggc cca gcc gcg	1056	Arg Thr Asn Lys Ile Arg Asp Arg Phe Trp Asp Pro Gly Pro Ala Ala		340	345	350		gac ccc ctg acc gac ctg cgc tac gtg tgg ggc ggc ttc gtg tac ctg	1104	Asp Pro Leu Thr Asp Leu Arg Tyr Val Trp Gly Gly Phe Val Tyr Leu		355	360	365		caa gac ctg gtg gag cgt gca gcc gtc cgc gtg ctc agc ggc gcc aac	1152	Gln Asp Leu Val Glu Arg Ala Ala Val Arg Val Leu Ser Gly Ala Asn		370	375	380		ccc cgg gcc ggc ctc tac ctg cag cag atg ccc tat ccg tgc tat gtg	1200	Pro Arg Ala Gly Leu Tyr Leu Gln Gln Met Pro Tyr Pro Cys Tyr Val		385	390	395	400	gac gac gtg ttc ctg cgt gtg ctg agc cgg tcg ctg ccg ctc ttc ctg	1248	Asp Asp Val Phe Leu Arg Val Leu Ser Arg Ser Leu Pro Leu Phe Leu		405	410	415																																																	
315	320																																																																																																		
ccc ggc cac gtg cgc atc aaa atc cgc atg gac att gac gtg gtc acg	1008																																																																																																		
Pro Gly His Val Arg Ile Lys Ile Arg Met Asp Ile Asp Val Val Thr																																																																																																			
325	330	335		agg acc aat aag atc agg gac agg ttt tgg gac cct ggc cca gcc gcg	1056	Arg Thr Asn Lys Ile Arg Asp Arg Phe Trp Asp Pro Gly Pro Ala Ala		340	345	350		gac ccc ctg acc gac ctg cgc tac gtg tgg ggc ggc ttc gtg tac ctg	1104	Asp Pro Leu Thr Asp Leu Arg Tyr Val Trp Gly Gly Phe Val Tyr Leu		355	360	365		caa gac ctg gtg gag cgt gca gcc gtc cgc gtg ctc agc ggc gcc aac	1152	Gln Asp Leu Val Glu Arg Ala Ala Val Arg Val Leu Ser Gly Ala Asn		370	375	380		ccc cgg gcc ggc ctc tac ctg cag cag atg ccc tat ccg tgc tat gtg	1200	Pro Arg Ala Gly Leu Tyr Leu Gln Gln Met Pro Tyr Pro Cys Tyr Val		385	390	395	400	gac gac gtg ttc ctg cgt gtg ctg agc cgg tcg ctg ccg ctc ttc ctg	1248	Asp Asp Val Phe Leu Arg Val Leu Ser Arg Ser Leu Pro Leu Phe Leu		405	410	415																																																									
335																																																																																																			
agg acc aat aag atc agg gac agg ttt tgg gac cct ggc cca gcc gcg	1056																																																																																																		
Arg Thr Asn Lys Ile Arg Asp Arg Phe Trp Asp Pro Gly Pro Ala Ala																																																																																																			
340	345	350		gac ccc ctg acc gac ctg cgc tac gtg tgg ggc ggc ttc gtg tac ctg	1104	Asp Pro Leu Thr Asp Leu Arg Tyr Val Trp Gly Gly Phe Val Tyr Leu		355	360	365		caa gac ctg gtg gag cgt gca gcc gtc cgc gtg ctc agc ggc gcc aac	1152	Gln Asp Leu Val Glu Arg Ala Ala Val Arg Val Leu Ser Gly Ala Asn		370	375	380		ccc cgg gcc ggc ctc tac ctg cag cag atg ccc tat ccg tgc tat gtg	1200	Pro Arg Ala Gly Leu Tyr Leu Gln Gln Met Pro Tyr Pro Cys Tyr Val		385	390	395	400	gac gac gtg ttc ctg cgt gtg ctg agc cgg tcg ctg ccg ctc ttc ctg	1248	Asp Asp Val Phe Leu Arg Val Leu Ser Arg Ser Leu Pro Leu Phe Leu		405	410	415																																																																	
350																																																																																																			
gac ccc ctg acc gac ctg cgc tac gtg tgg ggc ggc ttc gtg tac ctg	1104																																																																																																		
Asp Pro Leu Thr Asp Leu Arg Tyr Val Trp Gly Gly Phe Val Tyr Leu																																																																																																			
355	360	365		caa gac ctg gtg gag cgt gca gcc gtc cgc gtg ctc agc ggc gcc aac	1152	Gln Asp Leu Val Glu Arg Ala Ala Val Arg Val Leu Ser Gly Ala Asn		370	375	380		ccc cgg gcc ggc ctc tac ctg cag cag atg ccc tat ccg tgc tat gtg	1200	Pro Arg Ala Gly Leu Tyr Leu Gln Gln Met Pro Tyr Pro Cys Tyr Val		385	390	395	400	gac gac gtg ttc ctg cgt gtg ctg agc cgg tcg ctg ccg ctc ttc ctg	1248	Asp Asp Val Phe Leu Arg Val Leu Ser Arg Ser Leu Pro Leu Phe Leu		405	410	415																																																																									
365																																																																																																			
caa gac ctg gtg gag cgt gca gcc gtc cgc gtg ctc agc ggc gcc aac	1152																																																																																																		
Gln Asp Leu Val Glu Arg Ala Ala Val Arg Val Leu Ser Gly Ala Asn																																																																																																			
370	375	380		ccc cgg gcc ggc ctc tac ctg cag cag atg ccc tat ccg tgc tat gtg	1200	Pro Arg Ala Gly Leu Tyr Leu Gln Gln Met Pro Tyr Pro Cys Tyr Val		385	390	395	400	gac gac gtg ttc ctg cgt gtg ctg agc cgg tcg ctg ccg ctc ttc ctg	1248	Asp Asp Val Phe Leu Arg Val Leu Ser Arg Ser Leu Pro Leu Phe Leu		405	410	415																																																																																	
380																																																																																																			
ccc cgg gcc ggc ctc tac ctg cag cag atg ccc tat ccg tgc tat gtg	1200																																																																																																		
Pro Arg Ala Gly Leu Tyr Leu Gln Gln Met Pro Tyr Pro Cys Tyr Val																																																																																																			
385	390	395	400	gac gac gtg ttc ctg cgt gtg ctg agc cgg tcg ctg ccg ctc ttc ctg	1248	Asp Asp Val Phe Leu Arg Val Leu Ser Arg Ser Leu Pro Leu Phe Leu		405	410	415																																																																																									
395	400																																																																																																		
gac gac gtg ttc ctg cgt gtg ctg agc cgg tcg ctg ccg ctc ttc ctg	1248																																																																																																		
Asp Asp Val Phe Leu Arg Val Leu Ser Arg Ser Leu Pro Leu Phe Leu																																																																																																			
405	410	415																																																																																																	
415																																																																																																			

FIG. 3C

acg ctg gcc tgg atc tac tcc gtg aca ctg aca gtg aag gcc gtg gtg	1296		
Thr Leu Ala Trp Ile Tyr Ser Val Thr Leu Thr Val Lys Ala Val Val			
420	425	430	
cgg gag aag gag acg cgg ctg cgg gac acc atg cgc gcc atg ggg ctc	1344		
Arg Glu Lys Glu Thr Arg Leu Arg Asp Thr Met Arg Ala Met Gly Leu			
435	440	445	
agc cgc gcg gtg ctc tgg cta ggc tgg ttc ctc agc tgc ctc ggg ccc	1392		
Ser Arg Ala Val Leu Trp Leu Gly Trp Phe Leu Ser Cys Leu Gly Pro			
450	455	460	
ttc ctg ctc agc gcc gcg ctg gtt ctg gtg ctc aag ctg ggg gac	1440		
Phe Leu Leu Ser Ala Ala Leu Leu Val Leu Val Leu Lys Leu Gly Asp			
465	470	475	480
atc ctc ccc tac agc cac ccc ggc gtg gtc ttc ctg ttc ttg gca gcc	1488		
Ile Leu Pro Tyr Ser His Pro Gly Val Val Phe Leu Phe Leu Ala Ala			
485	490	495	
ttc gcg gtg gcc acg gtg acc cag agc ttc ctg ctc agc gcc ttc ttc	1536		
Phe Ala Val Ala Thr Val Thr Gln Ser Phe Leu Leu Ser Ala Phe Phe			
500	505	510	
tcc cgc gcc aac ctg gct gcg gcc tgc ggc ggc ctg gcc tac ttc tcc	1584		
Ser Arg Ala Asn Leu Ala Ala Cys Gly Gly Leu Ala Tyr Phe Ser			
515	520	525	
ctc tac ctg ccc tac gtg ctg tgt gtg gct tgg cgg gac cgg ctg ccc	1632		
Leu Tyr Leu Pro Tyr Val Leu Cys Val Ala Trp Arg Asp Arg Leu Pro			
530	535	540	
gcg ggt ggc cgc gtg gcc gcg agc ctg ctg tcg ccc gtg gcc ttc ggc	1680		
Ala Gly Gly Arg Val Ala Ala Ser Leu Leu Ser Pro Val Ala Phe Gly			
545	550	555	560
ttc ggc tgc gag agc ctg gct ctg ctg gag gag cag ggc gag ggc gcg	1728		
Phe Gly Cys Glu Ser Leu Ala Leu Leu Glu Glu Gln Gly Glu Gly Ala			
565	570	575	
cag tgg cac aac gtg ggc acc cgg cct acg gca gac gtc ttc agc ctg	1776		
Gln Trp His Asn Val Gly Thr Arg Pro Thr Ala Asp Val Phe Ser Leu			
580	585	590	
gcc cag gtc tct ggc ctt ctg ctg gac gcg gcg ctc tac ggc ctc	1824		
Ala Gln Val Ser Gly Leu Leu Leu Asp Ala Ala Leu Tyr Gly Leu			
595	600	605	
gcc acc tgg tac ctg gaa gct gtg tgc cca ggc cag tac ggg atc cct	1872		
Ala Thr Trp Tyr Leu Glu Ala Val Cys Pro Gly Gln Tyr Gly Ile Pro			
610	615	620	

FIG. 3D

gaa cca tgg aat ttt cct ttt cg ^g agg agc tac tgg tgc gga cct cg ^g	1920
Glu Pro Trp Asn Phe Pro Phe Arg Arg Ser Tyr Trp Cys Gly Pro Arg	
625 630 635 640	
ccc ccc aag agt cca gcc cct tgc ccc acc cg ^g ctg gac cca aag gt ^g	1968
Pro Pro Lys Ser Pro Ala Pro Cys Pro Thr Pro Leu Asp Pro Lys Val	
645 650 655	
ctg gta gaa gag gca cc ^g ccc ggc ctg agt cct gg ^g gta tcc gtt cg ^g	2016
Leu Val Glu Glu Ala Pro Pro Gly Leu Ser Pro Gly Val Ser Val Arg	
660 665 670	
agc ctg gag aag cg ^c ttt cct gga agc cc ^g cag cca gcc ctg cg ^g gg ^g	2064
Ser Leu Glu Lys Arg Phe Pro Gly Ser Pro Gln Pro Ala Leu Arg Gly	
675 680 685	
ctc agc ctg gac ttc tac cag gg ^c cac atc acc gcc ttc ctg gg ^c cac	2112
Leu Ser Leu Asp Phe Tyr Gln Gly His Ile Thr Ala Phe Leu Gly His	
690 695 700	
aac gg ^g gcc gg ^c aag acc acc acc ctg tcc atc tt ^g agt gg ^c ctc ttc	2160
Asn Gly Ala Gly Lys Thr Thr Leu Ser Ile Leu Ser Gly Leu Phe	
705 710 715 720	
cca ccc agt ggt gg ^c tct gcc ttc atc ctg gg ^c cac gac gtc cg ^c tcc	2208
Pro Pro Ser Gly Gly Ser Ala Phe Ile Leu Gly His Asp Val Arg Ser	
725 730 735	
agc atg gcc gcc atc cg ^g ccc cac ctg gg ^c gtc tgt cct cag tac aac	2256
Ser Met Ala Ala Ile Arg Pro His Leu Gly Val Cys Pro Gln Tyr Asn	
740 745 750	
gt ^g ctg ttt gac atg ctg acc gt ^g gac gag cac gtc tgg ttc tat gg ^g	2304
Val Leu Phe Asp Met Leu Thr Val Asp Glu His Val Trp Phe Tyr Gly	
755 760 765	
cg ^g ctg aag ggt ctg agt gg ^c gct gta gt ^g gg ^c ccc gag cag gac cgt	2352
Arg Leu Lys Gly Leu Ser Ala Ala Val Val Gly Pro Glu Gln Asp Arg	
770 775 780	
ctg ctg cag gat gt ^g gg ^c ctg gtc tcc aag cag agt gt ^g cag act cg ^c	2400
Leu Leu Gln Asp Val Gly Leu Val Ser Lys Gln Ser Val Gln Thr Arg	
785 790 795 800	
cac ctc tct ggt gg ^c atg caa cg ^g aag ctg tcc gt ^g gcc att gcc ttt	2448
His Leu Ser Gly Gly Met Gln Arg Lys Leu Ser Val Ala Ile Ala Phe	
805 810 815	
gt ^g gg ^c gg ^c tcc caa gtt gtt atc ctg gac gag cct acg gct gg ^c gt ^g	2496
Val Gly Gly Ser Gln Val Val Ile Leu Asp Glu Pro Thr Ala Gly Val	
820 825 830	

FIG. 3E

gat cct gct tcc cgc cgc ggt att tgg gag ctg ctg ctc aaa tac cga	2544
Asp Pro Ala Ser Arg Arg Gly Ile Trp Glu Leu Leu Leu Lys Tyr Arg	
835 840 845	
gaa ggt cgc acg ctg atc ctc tcc acc cac cac ctg gat gag gca gag	2592
Glu Gly Arg Thr Leu Ile Leu Ser Thr His His Leu Asp Glu Ala Glu	
850 855 860	
ctg ctg gga gac cgt gtg gct gtg gca ggt ggc cgc ttg tgc tgc	2640
Leu Leu Gly Asp Arg Val Ala Val Val Ala Gly Gly Arg Leu Cys Cys	
865 870 875 880	
tgt ggc tcc cca ctc ttc ctg cgc cgt cac ctg ggc tcc ggc tac tac	2688
Cys Gly Ser Pro Leu Phe Leu Arg Arg His Leu Gly Ser Gly Tyr Tyr	
885 890 895	
ctg acg ctg gtg aag gcc cgc ctg ccc ctg acc acc aat gag aag gct	2736
Leu Thr Leu Val Lys Ala Arg Leu Pro Leu Thr Thr Asn Glu Lys Ala	
900 905 910	
gac act gac atg gag ggc agt gtg gac acc agg cag gaa aag aag aat	2784
Asp Thr Asp Met Glu Gly Ser Val Asp Thr Arg Gln Glu Lys Lys Asn	
915 920 925	
ggc agc cag ggc agc aga gtc ggc act cct cag ctg ctg gcc ctg gta	2832
Gly Ser Gln Gly Ser Arg Val Gly Thr Pro Gln Leu Leu Ala Leu Val	
930 935 940	
cag cac tgg gtg ccc ggg gca cgg ctg gtg gag gag ctg cca cac gag	2880
Gln His Trp Val Pro Gly Ala Arg Leu Val Glu Glu Leu Pro His Glu	
945 950 955 960	
ctg gtg ctg gtg ctg ccc tac acg ggt gcc cat gac ggc agc ttc gcc	2928
Leu Val Leu Val Leu Pro Tyr Thr Gly Ala His Asp Gly Ser Phe Ala	
965 970 975	
aca ctc ttc cga gag cta gac acg cgg ctg gcg gag ctg agg ctc act	2976
Thr Leu Phe Arg Glu Leu Asp Thr Arg Leu Ala Glu Leu Arg Leu Thr	
980 985 990	
ggc tac ggg atc tcc gac acc agc ctc gag gag atc ttc ctg aag gtg	3024
Gly Tyr Ile Ser Asp Thr Ser Leu Glu Glu Ile Phe Leu Lys Val	
995 1000 1005	
gtg gag gag tgt gct gcg gac aca gat atg gag gat ggc agc tgc ggg	3072
Val Glu Glu Cys Ala Ala Asp Thr Asp Met Glu Asp Gly Ser Cys Gly	
1010 1015 1020	
cag cac cta tgc aca ggc att gct ggc cta gac gta acc ctg cgg ctc	3120
Gln His Leu Cys Thr Gly Ile Ala Gly Leu Asp Val Thr Leu Arg Leu	
1025 1030 1035 1040	

FIG. 3F

aag atg ccg cca cag gag aca gcg ctg gag aac ggg gaa cca gct ggg	3168
Lys Met Pro Pro Gln Glu Thr Ala Leu Glu Asn Gly Glu Pro Ala Gly	
1045 1050 1055	
tca gcc cca gag act gac cag ggc tct ggg cca gac gcc gtg ggc cgg	3216
Ser Ala Pro Glu Thr Asp Gln Gly Ser Gly Pro Asp Ala Val Gly Arg	
1060 1065 1070	
gta cag ggc tgg gca ctg acc cgc cag ctc cag gcc ctg ctt ctc	3264
Val Gln Gly Trp Ala Leu Thr Arg Gln Gln Ala Leu Leu Leu	
1075 1080 1085	
aag cgc ttt ctg ctt gcc cgc cgc agc cgc cgc ggc ctg ttc gcc cag	3312
Lys Arg Phe Leu Leu Ala Arg Arg Ser Arg Arg Gly Leu Phe Ala Gln	
1090 1095 1100	
atc gtg ctg cct gcc ctc ttt gtg ggc ctg gcc ctc gtg ttc agc ctc	3360
Ile Val Leu Pro Ala Leu Phe Val Gly Leu Ala Leu Val Phe Ser Leu	
1105 1110 1115 1120	
atc gtg cct cct ttc ggg cac tac ccg gct ctg cgg ctc agt ccc acc	3408
Ile Val Pro Pro Phe Gly His Tyr Pro Ala Leu Arg Leu Ser Pro Thr	
1125 1130 1135	
atg tac ggt gct cag gtg tcc ttc agt gag gac gcc cca ggg gac	3456
Met Tyr Gly Ala Gln Val Ser Phe Phe Ser Glu Asp Ala Pro Gly Asp	
1140 1145 1150	
cct gga cgt gcc cgg ctg ctc gag gcg ctg ctg cag gag gca gga ctg	3504
Pro Gly Arg Ala Arg Leu Leu Glu Ala Leu Leu Gln Glu Ala Gly Leu	
1155 1160 1165	
gag gag ccc cca gtg cag cat agc tcc cac agg ttc tcg gca cca gaa	3552
Glu Glu Pro Pro Val Gln His Ser Ser His Arg Phe Ser Ala Pro Glu	
1170 1175 1180	
gtt cct gct gaa gtg gcc aag gtc ttg gcc agt ggc aac tgg acc cca	3600
Val Pro Ala Glu Val Ala Lys Val Leu Ala Ser Gly Asn Trp Thr Pro	
1185 1190 1195 1200	
gag tct cca tcc cca gcc tgc cag tgt agc cag ccc ggt gcc cgg cgc	3648
Glu Ser Pro Ser Pro Ala Cys Gln Cys Ser Gln Pro Gly Ala Arg Arg	
1205 1210 1215	
ctg ctg ccc gac tgc ccc gct gca gct ggt ggt ccc cct ccc cag	3696
Leu Leu Pro Asp Cys Pro Ala Ala Ala Gly Gly Pro Pro Pro Gln	
1220 1225 1230	
gca gtg acc ggc tct ggg gaa gtg gtt cag aac ctg aca ggc cgg aac	3744
Ala Val Thr Gly Ser Gly Glu Val Val Gln Asn Leu Thr Gly Arg Asn	
1235 1240 1245	

FIG. 3G

ctg tct gac ttc ctg gtc aag acc tac ccg cgc ctg gtg cgc cag ggc	3792
Leu Ser Asp Phe Leu Val Lys Thr Tyr Pro Arg Leu Val Arg Gln Gly	
1250 1255 1260	
ctg aag act aag aag tgg gtg aat gag gtc agg tac gga ggc ttc tcg	3840
Leu Lys Thr Lys Lys Trp Val Asn Glu Val Arg Tyr Gly Gly Phe Ser	
1265 1270 1275 1280	
ctg ggg ggc cga gac cca ggc ctg ccc tcg ggc caa gag ttg ggc cgc	3888
Leu Gly Gly Arg Asp Pro Gly Leu Pro Ser Gly Gln Glu Leu Gly Arg	
1285 1290 1295	
tca gtg gag gag ttg tgg gcg ctg ctg agt ccc ctg cct ggc ggg gcc	3936
Ser Val Glu Glu Leu Trp Ala Leu Leu Ser Pro Leu Pro Gly Gly Ala	
1300 1305 1310	
ctc gac cgt gtc ctg aaa aac ctc aca gcc tgg gct cac agc ctg gat	3984
Leu Asp Arg Val Leu Lys Asn Leu Thr Ala Trp Ala His Ser Leu Asp	
1315 1320 1325	
gct cag gac agt ctc aag atc tgg ttc aac aac aaa ggc tgg cac tcc	4032
Ala Gln Asp Ser Leu Lys Ile Trp Phe Asn Asn Lys Gly Trp His Ser	
1330 1335 1340	
atg gtg gcc ttt gtc aac cga gcc agc aac gca atc ctc cgt gct cac	4080
Met Val Ala Phe Val Asn Arg Ala Ser Asn Ala Ile Leu Arg Ala His	
1345 1350 1355 1360	
ctg ccc cca ggc ccg gcc cgc cac gcc cac agc atc acc aca ctc aac	4128
Leu Pro Pro Gly Pro Ala Arg His Ala His Ser Ile Thr Thr Leu Asn	
1365 1370 1375	
cac ccc ttg aac ctc acc aag gag cag ctg tct gag gct gca ctg atg	4176
His Pro Leu Asn Leu Thr Lys Glu Gln Leu Ser Glu Ala Ala Leu Met	
1380 1385 1390	
gcc tcc tcg gtg gac gtc ctc gtc tcc atc tgt gtg gtc ttt gcc atg	4224
Ala Ser Ser Val Asp Val Leu Val Ser Ile Cys Val Val Phe Ala Met	
1395 1400 1405	
tcc ttt gtc ccg gcc agc ttc act ctt gtc ctc att gag gag cga gtc	4272
Ser Phe Val Pro Ala Ser Phe Thr Leu Val Leu Ile Glu Glu Arg Val	
1410 1415 1420	
acc cga gcc aag cac ctg cag ctc atg ggg ggc ctg tcc ccc acc ctc	4320
Thr Arg Ala Lys His Leu Gln Leu Met Gly Gly Leu Ser Pro Thr Leu	
1425 1430 1435 1440	
tac tgg ctt ggc aac ttt ctc tgg gac atg tgt aac tac ttg gtg cca	4368
Tyr Trp Leu Gly Asn Phe Leu Trp Asp Met Cys Asn Tyr Leu Val Pro	
1445 1450 1455	

FIG. 3H

gca tgc atc gtg gtg ctc atc ttt ctg gcc ttc cag cag agg gca tat	4416		
Ala Cys Ile Val Val Leu Ile Phe Leu Ala Phe Gln Gln Arg Ala Tyr			
1460	1465	1470	
gtg gcc cct gcc aac ctg cct gct ctc ctg ctg ttg cta cta ctg tat	4464		
Val Ala Pro Ala Asn Leu Pro Ala Leu Leu Leu Leu Leu Leu Tyr			
1475	1480	1485	
ggg aga cag gca gtt cca gtc acc cct gcg ctg gga ggt ggt cgg caa	4512		
Gly Arg Gln Ala Val Pro Val Thr Pro Ala Leu Gly Gly Arg Gln			
1490	1495	1500	
gaa cct ctt ggc cat ggt gat aca ggg gcc cct ctt cct tct ctt cac	4560		
Glu Pro Leu Gly His Gly Asp Thr Gly Ala Pro Leu Pro Ser Leu His			
1505	1510	1515	1520
act act gct gca gca ccg aag cca act cct gcc aca gcc cag ggt gag	4608		
Thr Thr Ala Ala Ala Pro Lys Pro Thr Pro Ala Thr Ala Gln Gly Glu			
1525	1530	1535	
gtc tct gcc act cct ggg aga gga gga cga gga tgt agc ccg tga	4653		
Val Ser Ala Thr Pro Gly Arg Gly Arg Gly Cys Ser Pro			
1540	1545	1550	

FIG. 4A

1 muABC1 muABCR MGFLRQIQLL LWKNWTLRKR QKIRFVVELV WPLSLFLVLI WLRNANPLYS muABCL MAFCTQLMLL LWKNYTYRRR QPIQLLVELL WPLFLFFILV AVRHSHPPLE	50 100 muABC1 MPSAGTLPWV QGIICNANNP CFRYPTPGEA PGVVGNFNKS muABCR QHECHFPNKA MPSAGLLPWL QGIFCNMNNP CFQNPTPGES PGTVSNYNNS muABCL HHECHFPNKP LPSAGTVPWL QGLVCNVNNS CFQHPTPGEK PGVLSNFKDS
101 muABC1 IVSRLFSDAQ RLLLYSQRDT SIKDMHKVLR MLRQIKHPN.SN muABCR ILARVYRDFQ ELFMDTPEVQ HLGQVWAELR TLSQFMDTLR THPERFAGRG muABCL LISRLADTR TVLGGHSIQL MLDALGKLIP VLRAVGGA.	150 151 muABC1 LKLQDFLVDN ETFSGFLQHN LSLPRSTVDS LLQXNVGLQK VFLQGYQLHL muABCR LQIRDILKDE EALTLFLMRN IGLSDSVAHL LVNSQVRVEQ FAYGVPDLEL muABCL
200 201 muABC1 ASLCNGSKLE EIIQLG.... DAEVSALC GLPRKKLDAA ERVLRYNMDI muABCR TDIACSEALL QRFIIFSQRRA GAQTVRDALC PLSQVTLQWI EDTLYADVDF muABCL RPQESDQP TSQGSVTKLL EKILQRASLD	250 251 muABC1 LKPVVTKLNS TSHLPTQHLA EATTVLLDSL GGLAQELFST KSWSDMRQEV muABCR FKLFHVLPTL LDSSSQGINL RFWGGILSDL SPRMQKFIHR PSVQDLLWVS muABCL PVLGQAQDSM RKFSDAIRDL AQELLTLPSL MELRALLR.. R.....
300 301 muABC1 MFLTNVNSSS SSTQIYQAVS RIVCGHPEGG GLKIKSLNWY EDNNYKALFG muABCR RPLLQNGGPE TFTQLMSILS DLLCGYPEGG GSRVFSFNWY EDNNYKAFLG muABCL PR GSAGSLELVS EALCSTKGPS SPGGLSLNWY EANQLNEFMG	350 351 muABC1 GNNTTEEDVDT FYDNSTTPYC NDLMKNLESS PLSRIIWKAL KPLLVGKILY muABCR IDSTRKDPAY SYDKRTTSFC NSLIQSLESN PLTKIAWRAA KPLLMGKILF muABCL PEVAPA LPDNSLSPAC SEFVGTLDDH PVSRLLWRRL KPLILGKILF
400 401 muABC1 TPDTPATRQV MAEVNKTTFQE LAVFHDLEGW WEELSPQIWT FMENSQEMDL muABCR TPDSPAARRI MKNANSTFEE LDRVRLKLVKA WEEVGPQIWT FFEKSTQMTV muABCL APDTNFTRKL MAQVNQTFEE LALLRDLHEL WGVLGPQIFN FMNDSTNVAM	450 451 muABC1 VRTLLDSRGN DQFWEQKLDG LDWTAQDIMA FLAKNPEDVQ SPNGSVYTWR muABCR IRDTLQHPTV KDFINRQLGE EGITTEAVLN FFSNGPQEKG ADDMTSFDW muABCL LQRLLDVGTT GQRQQTPRAQK.. KL.BAIKDFL DPSRGGYSWR

FIG. 4B

	501		550		
muABC1	EAFFNETNQAI	QTISRFMECV	NLNKLEPIPT	EVRLINKSME	LLDERKFWAG
muABCR	DIFNITDRFL	RLANQYLECL	VLDKFESYDD	EVQLTQRALS	LLEENRFWAG
muABCL	EAHADMGRLA	GILGQMMECV	SLDKLEAVPS	EEALVSRALE	LLGERRLWAG
	551		600		
muABC1	IVFTG.....	ITPDSVE	LPHHVKYKIR	MDIDNVERTN	KIKDGYWDPG
muABCR	VVFPG.....	...MYPWASS	LPPHVKYKIR	MDIDVVEKTN	KIKDRYWDSG
muABCL	IVFLSPEHPL	DPSELSSPAL	SPGHLRFKIR	MDIDDVTRTN	KIRDKFWDPG
	601		650		
muABC1	PRADPFEDMR	YVWGGFAYLQ	DVVEQAIIRV	LTGSEKKTGV	YVQQMPYPCY
muABCR	PRADPVEDFR	YIWGGFAYLQ	DMVEQGIVKS	QMQAEPIGV	YLQQMPYPCF
muABCL	PSADPFMDLR	YVWGGFVYLQ	DILLEQAAVRV	LGGGNSRTGL	YLQQMPHPCY
	651		700		
muABC1	VDDIFLRVMS	RSMPLFMTLA	WIYSVAVIIK	SIVYEKEARL	KETMRIMGLD
muABCR	VDDSFMIILN	RCFPIFMVLA	WIYSVSMTVK	GIVLEKELRL	KETLKNQGVS
muABCL	VDDVFLRVLS	RSLPLFLTLA	WIYSVALTVK	AVVREKETRL	RETMRAMGLS
	701		750		
muABC1	NGILWFSWVF	SSLIPLLVSA	GLLVVILKLG	NLLPYSDPSV	VVFVFLSVFAM
muABCR	NAVIWCTWFL	DSFSIMALSI	FLLTLFIMHG	RILHYSDPFI	LFLFLLAFAT
muABCL	RAVLWLWFL	SCLGPFLVSA	ALLVLVLKLG	NILPYSHPVV	IFLFLAAFAV
	751		800		
muABC1	VTILOCFLIS	TLFSRANLAA	ACGGIIFYTL	YLPYVLCVAW	QDYVGFSIKI
muABCR	ATIMQSFLLS	TLFSKASLAA	ACSGVIYFTL	YLPHVLCFAW	QDRMTADLKT
muABCL	ATVAQSFLLS	AFFSRANLAA	ACGGLAYFAL	YLPYVLCVAW	RERLHLGGLL
	801		850		
muABC1	FASLLSPVAF	GFGCEYFALF	EEQGIGVQWD	NLFESPVEED	GFNLTTAVSM
muABCR	TVSLLSSVAF	GFGTEYLVRF	EEQGLGLQWS	NIGKSPLEGD	EFSFLLSMKM
muABCL	AASLLSPVAF	GFGCESLALL	EEQGDGAQWH	NLGTG.PAED	VFSLAQVSAT
	851		900		
muABC1	MLFDLFLYGV	MTWYIEAVFP	GQYGIPRPWY	FPCTKSYWFG
muABCR	MLLDAALYGL	LAWYLDQVFP	GDYGTPLPWY	FLLQESYWLG	GEGCSTREER
muABCL	LLLDADIYGL	ALWYLEAVCP	GQYGIPEPWN	FPFRRSYWCG
	901		950		
muABC1EEIDE	KSHPGSSQKG	VSEICMEEEP	THLRLGVSIQ	NLVKVYRDGM
muABCR	ALEKTEPLTE	EMEDPEHPEG	MNDSFFEREL	PGLVPGVCVK	NLVKVFEPSG
muABCLPGP.P	KSSVLAPAPQ	DPKVLVEEPP	LGLVPGVSIR	GLKKHFRGCP
	951		1000		
muABC1	KVAVDGLALN	FYEGQITSFL	GHNGAGKTTT	MSILTGLFPP	TSGTAYILGK
muABCR	RPAVDRLNIT	FYENQITAFL	GHNGAGKTTT	LSILTGLLPP	TSGTBLIGGK
muABCL	QPALQGLNLD	FYEGHITAFL	GHNGAGKTTT	LSILSGLFPP	SSGSASILGH

FIG. 4C

	1001	1050
muABC1	DIRSEMSSIR QNLGVCPQHN VLFDMLTVEE HIWFYARLKG LSEKHVKAEM	
muABCR	DIETNLDVVR QSLGMCPQHN ILFHHLTVAE HILFYAQLKG RSWEEAQLEM	
muABCL	DVQTNMAAIR PHLGICPQYN VLFDMLTVEE HVWFYGRKG VSAAAMGPER	
	1051	1100
muABC1	EQMALDVGLP PSKLKSCTS QSGGMQRKLS VALAFVGGSK VVILDEPTAG	
muABCR	EAMLEDTGLH HK.RNEAQD LSGGMQRKLS VAIASFVGDSK VVVLDEPTSG	
muABCL	ERLIRDVGLT LK.RDTQTRH LSGGMQRKLS VAIASFVGGSR VVIMDEPTAG	
	1101	1150
muABC1	VDPYSRRGIW ELLLKYRQGR TIILSTHHMD EADILGDRIA IISHGKLCCV	
muABCR	VDPYSRRSIW DLLLKYRSRGR TIIMSTHHMD EADLLGDRIA IISQGRLYCS	
muABCL	VDPASRRGIW ELLLKYREGR TLILSTHHLD EAELLGDRVA MVAGGSLCCC	
	1151	1200
muABC1	GSSLFLKNQL GTGYYLTLVK KDVESSLSSC RNSSSTVSCL KKEDSVSQSS	
muABCR	GTPLFLKNCF GTGFYLTLLVR KMKNIQSQRG .GCEGVCSCT SKGFSTR...	
muABCL	GSPLFLRRHL GCGYYLTLVK SSQSLVTHDA KGDSEDPRRE KKSDGNGRTS	
	1201	1250
muABC1S DAGLGSDHES DTLTIDVSAI SNLIRKHVSE ARLVEDIGHE	
muABCRC PTRVDEITEE QVLDGDVQEL MDLVYHHVPE AKLVECIGQE	
muABCL	DTAFTRGTS KSNQAPAPGA VPITPSTAR LELVQQHVPG AQLVEDLPHE	
	1251	1300
muABC1	LTYVLPYEAA KEGAFVELFH EIDDRRLSDLG ISSYGISETT LEEIFLKVAE	
muABCR	LIFLPLPNKNF KQRAYASLFR ELEETLADLG LSSFGISDTP LEEIFLKVT	
muABCL	LLLVLVLPYAGA LDGSFAMVFO ELDQQLELLG LTGYGISDTN LEEIFLKVV	
	1301	1350
muABC1	ESGVDAETSD GTLPARRNRR AFGDKQSCLH PFTEDDAVDP NDSDIDPESR	
muABCR	DAGAGSMFVG GAQQKREQAG LRHPCSAAPTE KLRQYAQAPH TCSPGQVDPP	
muABCL	DA...HREGG DSRPQLHLR. .TCTPQPPPTG PEASVLENGE LAK..LV..L	
	1351	1400
muABC1	ETDLLSGMDG KGSYQLKGWK LTQQQFVALL WKRLLIARRS RKGFFAQIVL	
muABCR	KGQPSPEPED PGVPFNTGAR LILQHVQALL VKRFHHTIRS RKDFVAQIVL	
muABCL	D.PQAPQGLA PNAAQVQGWT LTCQQLRALL HKRFLLARRS RRGLFAQVVL	
	1401	1450
muABC1	PAVFVCIALV FSLIVPPFGK YPSLELQPWM YNEQYTFVSN DAPEDMGTQE	
muABCR	PATFVFLALM LSIIIVPPFGF FPALTLHPWM YGHQYTFQSM DEPNNEHLEV	
muABCL	PALFVGLALF FSLIVPPFGQ YPPLQLSPAM YGPQVSFFSE DAPGDPNRMK	
	1451	1500
muABC1	LLNALTKDPG FGTRCMEGNP IPDTPCLAG. EEDWTISPVP QSIVDLFQNG	
muABCR	LADVLLNRPG FGNRCLKEEW LPEYPCIN.. ATSWKTPSVS PNITHLFQKQ	
muABCL	LLEALLGEAG LQEPMQDKD ARGSECTHSL ACYFTVPEVP PDVASILASG	

FIG. 4D

	1501	1550
muABC1	NWTMKNPSPA CQCSSDKIKK MLPVCPPGAG GLPPPQRKQK TADILQNLTG	
muABCR	KWTAAHPSPS CKCSTREKLT MLPECPEGAG GLPPPQRTQR STEVLQDLTN	
muABCL	NWTPESPSPA CQCSQPGARR LLPDCPAGAG GPPPPQAVAG LGEVVQNLTG	
	1551	1600
muABC1	RNISDYLVKT YVQIIAKSLK NKİWVNEFRY GGFSLGVSNS QALPPSHEVN	
muABCR	RNISDYLVKT YPALIRSSLK SKFWVNEQRY GGISIGGKLP AIPISGEALV	
muABCL	RNVSDFLVKT YPSLVRRGLK TKKWVDEVRY GGFSLGGRDP .DLPTGHEVV	
	1601	1650
muABC1	DAIKQMKKLL KLTKDTSADR FLSSLGRFMA GLDTKNNVKV WFNNKGWHAI	
muABCR	GFLSGLGQMM NVSGGPVTRE ASKEMLDFLK HLETTDNIKV WFNNKGWHAL	
muABCL	RTLAEIRALL SPQPGNALDR ILNNNLQWAL GLDARNLSKI WFNNKGWHAM	
	1651	1700
muABC1	SSFLNVINNA ILRANLQKGE NPSQYGITAF NHPLNLTKQQ LSEVALMTTS	
muABCR	VSFLNVAHNA ILRASLPRDR DPEEYGITVI SQPLNLTKEQ LSDITVLTTS	
muABCL	VAFVN'RANNG LLHALLPSGP VRHAHSITTL NHPLNLTKEQ LSEATLIASS	
	1701	1750
muABC1	VDVLVSICVI FAMSFVPASF VVFLIQERVS KAKHLQFISG VKPVIYWLNS	
muABCR	VDAVVAICVI FAMSFVPASF VLYLIQERVT KAKHLQFISG VSPTTYWLTN	
muABCL	VDVLVSICVV FAMSFVPASF TLVLIEERIT RAKHLQLVSG LPQTLYWLGN	
	1751	1800
muABC1	FVWDMCNYVV PATLVIIIFI CFQQKSYVSS TNLPVLALLL LLYGWSITPL	
muABCR	FLWDMIMNYAV SAGLVVGIFI GFQKKAYTSP DNLPALVSSL MLYGWAVIPL	
muABCL	FLWDMCNYLV AVCIVVFIFL AFQQRAYVAP ENLPALLLL LLYGWSITPL	
	1801	1850
muABC1	MYPASFVFKI PSTAYVVLTS VNLFIGINGS VATFVLELFT NN.KLNDIND	
muABCR	MYPASFLFEV PSTAYVALSC ANLFIGINSS AITFVLELFE NNRTLLRFNA	
muABCL	MYPASFFFSV PSTAYVVLTC INLFIGINSS MATFVLELLS DQ.NLQEVS	
	1851	1900
muABC1	ILKSVFLIFP HFCLGRGLID MVKNQAMADA LERFGENRFV SPLSWDLVGR	
muABCR	MLRKLLIVFP HFCLGRGLID LALSQAVTDV YAQFGEESA NPFQWDLIGK	
muABCL	ILKQVFLIFP HFCLGRGLID MVRNQAMADA FERLGDKQFQ SPLRWDIIGK	
	1901	1950
muABC1	NLFAMAVEGV VFFLITVLIQ YRFFIRPRPV KAKLPPLNDE DEDVRRERQR	
muABCR	NLVAMAIEGV VYFLLTLLIQ HFFFLTRWIA EPAREPVFDE DDDVAEERQR	
muABCL	NLLAMMAQGP LFLLITLLLQ HRNRLLPQSK PRLLPPLGEE DEDVAQERER	
	1951	2000
muABC1	ILDGGGQNDI LEIKELTKIY RRKRKPAVDR ICIGIPPGE C FGLLGVNGAG	
muABCR	VMSGGNKTDI LKLNELTKVY SGSSSPAVDR LCVGVRPGEC FGLLGVNGAG	
muABCL	VTKGATQGDV LVLRLDTKVY RGQRNPBVDR LCLGIPPGE C FGLLGVNGAG	

FIG. 4E

	2001	2050
muABC1	KSTTFKMLTG DTPVTRGDAF LNKNSILSNI HEVHQNMGYC PQFDAITELL	
muABCR	KTTTFKMLTG DTTVTSGDAT VAGKSILTSI SDVHQNMGYC PQFDAIDDLL	
muABCL	KTSTFRMVTG DTLPSSGEAV LAGHNVAQER SAAHRSMGYC PQSDAIFDLL	
	2051	2100
muABC1	TGREHVEFFA LLRGVPEKEV GKFGEWAIRK LGLVKYGEKY ASNYSGGNKR	
muABCR	TGREHLYLYA RL RGVPSEKI EKVANWGIQS LG LSLYADRL AGTYSGGNKR	
muABCL	TGREHLELFA RL RGVPPEAQV AQTALSGLVR LG LPSYADRP AGTYSGGNKR	
	2101	2150
muABC1	KLSTAMALIG GPPVVFLDEP TTGMDPKARR FLWNCA SIV K EGRSVVLTS	
muABCR	KLSTAIALTG CPPLLLDEP TTGMDPQARR MLWNTIVSII REGRAVVLTS	
muABCL	KLATALALVG DP AVVFLDEP TTGMDPSARR FLWN SLLSVV REGRSVVLTS	
	2151	2200
muABC1	HS MEECEALC TRMAIMVN GR FR CLGSVQHL KN RFGDGYTI VV RIAGS...	
muABCR	HS MEECEALC TR LAIMVKG T FCLGTIQHL KY KFGDGYIV TM KIKSPKDD	
muABCL	HS MEECEALC TR LAIMVN GR FR CLGSSQHL KGRFGAGHTL TLRVPPD...	
	2201	2250
muABC1	.NPDLKPVQE FFGLA FPGSV LKEKHRNMLQ YQLPSS.LSS LARIF SILSQ	
muABCR	LLPDLNPVEQ FF QGNFPGSV QR ERHH SMLQ FQVPS...SS LARIF QLLIS	
muABCL	.Q..PEPAIA FIRIT FPGAE LREV HG SRLR FQLP GGRCT LTRV FRELAA	
	2251	2300
muABC1	SKKRLHIEDY SVSQTTL DQV FVNFAKDQSD DDHLKDLSLH KNQTVVDVAV	
muABCR	HKD SLLIEEY SVTQTTLDQV FVNFAKQQTE TYDLPLHPRA AGASWQAKLE	
muABCL	QGRAHGVEDF SVSQT TLEEV FLYFSKDQGE EEESSRQEAE EEEVSKPGRQ	
	2301	2337
muABC1	LTSFLQDEKV KESYV.....	
muABCR	EKS GRLQTQE PLPAGSEQLA NG S NPTAAED KHTRSPO	
muABCL	HPKRVSRFLE DPSSVETMI.	

FIG. 5A

1	50
huABC1	MACWPQLRLL LWKNLTFRRR QTCQLLLEVA WPLFIFLILI SVRLSYPPYE
huABCR	MGFVRQIQLL LWKNWTLRKR QKIRFVVELV WPLSLFLVLI WLRNANPLYS
huABCL	MAFWTQLMLL LWKNFMYRRR QPVQLLVELL WPLFLFFILV AVRHSHPPLE
51	100
huABC1	QHECHFPNKA MPSAGTLPWV QGIICNANNP CFRYPTPGEA PGVVGNFNKS
huABCR	HHECHFPNKA MPSAGMLPWL QGIFCNVNNP CFQSPTPGES PGIVSNYNNS
huABCL	HHECHFPNKP LPSAGTVPWL QGLICCNVNNT CFPQLTPGEE PGRLSNFNDS
101	150
huABC1	IVARLFSDAR RLLLYSQKDT SMKDMRKVLR TLQQIKKSS. SN
huABCR	ILARVYRDFQ ELLMNAPESQ HLGRIVTELH ILSQFMDTLR THPERIAGRG
huABCL	LVSRLLLADAR TVLGGASAHR TLAGLGKLIA TLRAARSTA.
151	200
huABC1	LKLQDFLVDN ETFSGFLYHN LSLPKSTVDK MLRADVILHK VFLQGYQLHL
huABCR	IRIRDILKDE ETTLTLFLIKN IGLSDSVVYL LINSQVRPEQ FAHGVPDLAL
huABCL
201	250
huABC1	TSLCNGSKSE EMIQLG. DQEVS ELC GLPREKLA A A ERVILRSNMDI
huABCR	KDIACSEALL ERFIIIFSQRR GAKTVRYALC SLSQGTLQWI EDTLYANVDF
huABCL QQPPTKQSPQ EPPMLDVAEL
251	300
huABC1	LKPILRTLNS TSPFPSKELA EATKTLLHSL GTLAQELFSM RSWSDMRQEV
huABCR	FKLFRVLPTL LDSRSQGINL RSWGGILSDM SPRIQEFIHR PSMQDLLWVT
huABCL	LTSLLRTESL GLALGQA..Q EPLHSLLA A EDLAQELLAL RSLVELRALL
301	350
huABC1	MFLTNVNSSS SSTQIYQAVS RIVCGHPEGG GLKIKSLNWY EDNNYKALFG
huABCR	RPLMQNGGPE TFTKLMGILS DLLCGYPEGG GSRVLSFNWY EDNNYKAFLG
huABCL	QRPRGTSGP. LELLS EALCSVRGPS STVGPSLNWY EASDLMELVG
351	400
huABC1	GNGTEEDAET FYDNSTTPYC NDLMKNLESS PLSRIIWKAL KPLLVGKILY
huABCR	IDSTRKDPIY SYDRRTTSFC NALIQSLESN PLTKIAWRAA KPLLMGKILY
huABCL QEPESA LPDSSLSPAC SELIGALDSH PLSRLLWRRRL KPLILGKLLF
401	450
huABC1	TPDTPATRQV MAEVNKTTFQE LAVFHDLEGM WEELSPKIWT FMENSQEMDL
huABCR	TPDSPAARRI LKNANSTFEE LEHVRKLVKA WEEVGPQIWIY FFDNSTQNMN
huABCL	APDTPFTRKL MAQVNRTFEE LTLLRDVREV WEMLGPRIFT FMNDSSNVAM
451	500
huABC1	VRMLLDSRDN DHFWEQQLDG LDWTAQDIVA FLAKHPEDVQ SSNGSVYTW
huABCR	IRDTLGNPTV KDFLNRQLGE EGITAEAILN FLYKGPRSQ ADDMANFDWR
huABCL	LQRLLQMQDE GRRQPRPGGR D. HMEALRSFL DPGSGGYSWQ

FIG. 5B

	501	550
huABC1	EAFFNETNQAI RTISRFMECV NLNKLEPIAT EVWLINKSME LLDERKFWAG	
huABCR	DIFNITDRTL RLVNQYLECL VLDKFESYND ETQLTQRALS LLEENMFWAG	
huABCL	DAHADVGHLV GTLGRVTECL SLDKLEAAPA EAALVSRALQ LLAEHRFWAG	
	551	600
huABC1	IVFTG..... ITPGSIE LPHHVKYKIR MDIDNVERTN KIKDGWDPG	
huABCR	VVFVD..... MYPWTSS LPPHVKYKIR MDIDVVEKTN KIKDRYWDSG	
huABCL	VVFVFLGPEDSS DPTEHPTPDL GPGHVRIKIR MDIDVVTRTN KIRDRFWDPG	
	601	650
huABC1	PRADPFEDMR YVWGGFAYLQ DVVEQAIIRV LTGTEKKTGV YMQQMPYPCY	
huABCR	PRADPVEDFR YIWGGFAYLQ DMVEQGITRS QVQAEAPVGI YLQQMPYPCF	
huABCL	PAADPLTDLR YVWGGFVYLQ DLVERAAVRV LSGANPRAGL YLQQMPYPCY	
	651	700
huABC1	VDDIFLRVMS RSMPLFMTLA WIYSVAVIILK GIVYEKEARL KETMRIMGLD	
huABCR	VDDSFMIILN RCFPIFMVLA WIYSVSMVTVK SIVLEKELRL KETLKNQGVS	
huABCL	VDDVFLRVLS RSLPLFLTLA WIYSVTLTVK AVVREKETRL RDTMRAMGLS	
	701	750
huABC1	NSILWFSWFI SSLIPLLVS A GLLVVILKLG NLLPYSDPSV VFVFLSVFAV	
huABCR	NAVIWCTWFL DSFSIMMSI FLTIFIMHG RILHYSDPFI LFLFLLAFST	
huABCL	RAVLWLGWFL SCLGPFLLSA ALLVLVLKLG DILPYSHPGV VFLFLAAFAV	
	751	800
huABC1	VTILQCFLIS TLFSRANLAA ACGGIYFTL YLPYVLCVAW QDYVGFTLKI	
huABCR	ATIMLCFLS TFFSKASLAA ACGSVIYFTL YLPHILCFAW QDRMTAELKK	
huABCL	ATVTQSFLS AFFSRANLAA ACGGLAYFSL YLPYVLCVAW RDRLPAGGRV	
	801	850
huABC1	FASLLSPVAF GFGCEYFALF EEEQGIGVQWD NLFESPVEED GFNLTTSVSM	
huABCR	AVSLLSPVAF GFGTEYLVRF EEEQGLGLQWS NIGNSPTEGD EFSFLLSMQM	
huABCL	AASLLSPVAF GFGCESLALL EEEQGEGAQWH NVG.TRPTAD VFSLAQVSGL	
	851	900
huABC1	MLFDTFLYGV MTWYIEAVFP GQYGIPRWPY FPCTKSYWFG	
huABCR	MLLDAAVYGL LAWYLDQVFP GDYGTPLWPY FLLQESYWLS GEGCSTREER	
huABCL	LLLDAAALYGL ATWYLEAVCP GQYGIPEPNW FPFRRSYWCW	
	901	950
huABC1EESDE KSHPGSNQKR ISEICMEEEP THLKLGVSIQ NLVKVYRDGM	
huABCR	ALEKTEPLTE ETEDEPEHPEG IHDSFFEREH PGWVPGVCVK NLVKIFEPG	
huABCLPRPP KSPAPCPPTPL DPKVLVEEAP PGLSPGVSVR SLEKRFPGSP	
	951	1000
huABC1	KVAVDGLALN FYEGQITSFL GHNGAGKTTT MSILTGLFPP TSGTAYILGK	
huABCR	RPAVDRNLIT FYENQITAFL GHNGAGKTTT LSILTGLLPP TSGTBLVGGR	
huABCL	QPALRGLSLD FYQGHITAFL GHNGAGKTTT LSILSGLFPP SGGSAFILGH	

FIG. 5C

	1001	1050
huABC1	DIRSEMSTIR QNLGVCPQHN VLFDMLTVEE HIWFYARLKG LSEKHVK	AEM
huABCR	DIETSLDAVR QSLGMCPQHN ILFHHLTVAE HMLFYAQLKG KSQEEAQLEM	
huABCL	DVRSSMAAIR PHLGVCPQYN VLFDMLTVDV HWWFYGRLKG LSAAVVGPEQ	
	1051	1100
huABC1	EQMALDVGLP SSKLKSKTSQ LSGGMQRKLS VALAFVGGSK VVILDEPTAG	
huABCR	EAMLEDTGLH HK.RNEEAQD LSGGMQRKLS VAIASFVDAK VVILDEPTSG	
huABCL	DRLLQDVGLV SK.QSVQTRH LSGGMQRKLS VAIASFVGGSQ VVILDEPTAG	
	1101	1150
huABC1	VDPYSRRGIW ELLLKYRQGR TIILSTHHMD EADVLGDRIA IISHGKLCCV	
huABCR	VDPYSRRSIW DLLLKYRSGR TIIMSTHHMD EADLLGDRIA IIIAQGRLYCS	
huABCL	VDPASRRGIW ELLLKYREGR TLILSTHHLD EAELLGDRVA VVAGGRLCCC	
	1151	1200
huABC1	GSSLFLKNQL GTGYYLTALK KDVESSLSSC RNSSSTVSYL KKEDSVSQSS	
huABCR	GTPLFLKNCF GTGLYLTALK KMKNIQSQRK GSEGTC SCSSKGFSTT	
huABCL	GSPLFLRRHL GSGYYLTALK ARLPLTTNEK ADTDMEGS	
	1201	1250
huABC1	SDAGLGSDHE SDTLTIDVSA ISNLIRKHVS EARLVEDIGH ELTYVLPYEA	
huABCR	CPAHVDDLTP EQVLDGDVNE LMDVVLHHVP EAALVCECIGQ ELIFLLPNKN	
huABCL	VDTRQEKKNG SQGSRVGTPQ LLALVQHWVP GARLVEELPH ELVLVLPYTG	
	1251	1300
huABC1	AKEGAFVELF HEIDDRSDL GISSYGISET TLEEIFLKVA EESGVDAETS	
huABCR	FKHRAYASLF RELEETLADL GLSSFGISDT PLEEIFLKVT EDSDSGPLFA	
huABCL	AHDGSFATLF RELDTRLAEL RLTGYGISDT SLEEIFLKVV EECAADTDME	
	1301	1350
huABC1	DGTLPARRNR RAFGDKQSCL RPFTEDDAAD PNDSIDPES RETDLLSGMD	
huABCR	GGAQQKREN. ..VNPRHPCL GPREKAGQTP QDSNVCPGA PAAHPEGQPP	
huABCL	DGSCGQHLCT .GIAGLDVTL RLKMPPQETA LENGEPAGSA PETDQGSGPD	
	1351	1400
huABC1	GK....GSYQ VKGWKLQQQ FVALLWKRLL IARRSRKGFF AQIVLPAVFV	
huABCR	PEPECPGPQL NTGTQLVLQH VQALLVKRFQ HTIRSHKDFL AQIVLPATFV	
huABCL	AV....G..R VQGWALTRQQ LQALLLKRFL LARRSRRGLF AQIVLPALFV	
	1401	1450
huABC1	CIALVFSLIV PPFKGKPSLE LQPWMYNEQY TFVSNDAPED TGTLELLNAL	
huABCR	FLALMLSIVI LPFGEYPALT LHPWIYQQY TFFSMDEPGS EQFTVLADVL	
huABCL	GLALVFSLIV PPFGHYPALR LSPTMYGAQV SFFSEDAPGD PGRARLLEAL	
	1451	1500
huABC1	TKDPGFGTRC MEGNPIPDTQ CQAGEEEWTT APVPQTIMDL FQNGNWTMQN	
huABCR	LNKPGFGNRC LKEGWLPEYP CGN.STPWKTP PSVSPNITQL FQKQKWTQVN	
huABCL	L.....QEAGLEEPP VQHSSHRFSA PEVPAEVAKV LASGNWTPES	

FIG. 5D

	1501	1550
huABC1	PSPACQCSSD KIKKMLPVCP PGAGGLPPPQ RKQNTADILQ DLTGRNISDY	
huABCR	PSPSCRCSTR EKLMLPECP EGAGGLPPPQ RTQRSTEILQ DLTDRNISDF	
huABCL	PSPACQCSQP GARRLLPDCP AAAGGPPPPQ AVTGSGEVVQ NLTGRNLSDF	
	1551	1600
huABC1	LVKTYVQIIA KSLKNKIWVN EFRYGGFSLG VSNTQALPPS QEVNDATKQM	
huABCR	LVKTYPALIR SSLKSKFWVN EQRYGGISIG GKLPVVPITG EALVGFLSDL	
huABCL	LVKTYPRLVR QGLKTKWVN EVRYGGFSLG GRDPGLP.SG QELGRSVEEL	
	1601	1650
huABC1	KKHLKLAKDS SADRFLNSLG RFMTGLDTRN NVKVWFNNKG WHAISSFLNV	
huABCR	GRIMNVSGGP ITREASKEIP DFLKHLETED NIKVWFNNKG WHALVSFLNV	
huABCL	WALLSPLPGG ALDRVLKNLT AWAHSLDAQD SLKIWFNNKG WHSMVAFVNR	
	1651	1700
huABC1	INNAILRANL QKGENPSHYG ITAFNHPLNL TKQQLSEVAP MTTSDVLVS	
huABCR	AHNAILRASL PKDRSPEEYG ITVISQPLNL TKEQLSEITV LTTSVDAVVA	
huABCL	ASNAILRAHL PPGPARHAHS ITTLNHPLNL TKEQLSEAAL MASSVDVLVS	
	1701	1750
huABC1	ICVIFAMSFV PASFVVFLIQ ERVSKAKHLQ FISGVKPVYI WLSNFVWDMC	
huABCR	ICVIFSMSFV PASFVLYLIQ ERVNKSCHKLQ FISGVSPPTY WVTNFLWDIM	
huABCL	ICVVFAMSFV PASFTLVLIE ERVTRAKHLQ LMGGLSPTLY WLGNFLWDMC	
	1751	1800
huABC1	NYVVPATLVI IIFICFQQKS YVSSTNLPVL ALLLLLGYGWS ITPLMYPASF	
huABCR	NYSVSAGLVV GFIGFQKKA YTSPENLPAL VALLLLGYGWA VIPMMYPASF	
huABCL	NYLVPACIVV LIFLAFQQRA YVAPANLPAL LLLLLLYGWS ITPLMYPASF	
	1801	1850
huABC1	VFKIPSTAYV VLTSVNLFIG INGSVATFVL ELFTDN.KLN NINDILKSVF	
huABCR	LFDVPSTAYV ALSCANLFIG INSSAITFIL ELFDDNNRTLL RFNAVLRKLL	
huABCL	FFSVPSTAYV VLTCINLFIG INGSMATFVL ELFSDQ.KLQ EVSRILKQVF	
	1851	1900
huABC1	LIFPHFCLGR GLIDMVKNQA MADALERFGE NRFVSPSLWD LVGRNLFAMA	
huABCR	IVFPHFCLGR GLIDLALSQA VTDVYARFGE EHSANPFHWD LIGKNLFAMV	
huABCL	LIFPHFCLGR GLIDMVRNQA MADAERLGD RQFQSPRLWE VVGKNLLAMV	
	1901	1950
huABC1	VEGVVFFLIT VLIQYRFFIR PRPVNAKLSP LNDEDEDVRR ERQRILDGGG	
huABCR	VEGVVYFLLT LLVQRHFFLS QWIAEPTKEP IVDEDDDVAE ERQRIITGGN	
huABCL	IQGPLFLLFT LLLQHRSQLL PQPRVRSLPL LGEEDEDVAR ERERVVQGAT	
	1951	2000
huABC1	QNDILEIKEL TKIYRRKRKP AVDRICVGIP PGECFGLLGV NGAGKSSTFK	
huABCR	KTDILRLHEL TKIYLGTSPP AVDRLCVGVR PGECFGLLGV NGAGKTTTFK	
huABCL	QGDVLVLRNL TKVYRGQRMP AVDRLCLGIP PGECFGLLGV NGAGKTSTFR	

FIG. 5E

	2001	2050
huABC1	MLTGDTTVTR GDAFLNRNSI LSNIHEVHQ	MGYCPQFDAI TELLTGREHV
huABCR	MLTGDTTVTS GDATVAGKSI LTNISEVHQ	MGYCPQFDAI DELLTGREHL
huABCL	MVTGDTLASR GEAVLAGHSV AREPSAAHLS	MGYCPQSDAI FELLTGREHL
	2051	2100
huABC1	EFFALLRGVP EKEVGKVG EW AIRKLGLV KY GEKYAGNYSG GNKRKLSTAM	
huABCR	YLYARLRGVP AEEIEKVANW SIKSLGLTVY ADCLAGTYSG GNKRKLSTAI	
huABCL	ELLARLRGVP EAQVAQTAGS GLARLGLSWY ADRPAGTYSG GNKRKLATAL	
	2101	2150
huABC1	ALIGGPPVVF LDEPTTGMDP KARRFLWNCA LSVVKEGRSV VLTSHSMEEC	
huABCR	ALIGCPPLVL LDEPTTGMDP QARRMLWNVI VSIIREGRAV VLTSHSMEEC	
huABCL	ALVGDPAVVF LDEPTTGMDP SARRFLWNSL LAVVREGRSV MLTSHSMEEC	
	2151	2200
huABC1	EALCTRMAIN VNGRFRCLGS VQHLKNRGD GYTIVVRIAG S....NPDLK	
huABCR	EALCTRLAIM VKGAFRCMGT IQHLKSKFGD GYI VTMKIKS PKDDLLPDLN	
huABCL	EALCSRLAIM VNGRFRCLGS PQHLKGRFAA GHTLTLRVPA A.....RSQ	
	2201	2250
huABC1	PVQDFFGLAF PGSVPKEKHR NMLQYQLPSS .LSSLARIFS ILSQSKKRLH	
huABCR	PVEQFFQGNF PGSVQRERHY NMLQFQVSS . .SSLARIFQ LLLSHKDSLL	
huABCL	PAAAFVAAEF PGSELREAHG GRLRFQLPPG GRCALARVFG ELAVHGAEHG	
	2251	2300
huABC1	IEDYSVSQTT LDQVFVNFAK DQSDDDHLD LSLHKNQTVV DVAVLTSFLQ	
huABCR	IEEYSVTQTT LDQVFVNFAK QQTESHDLPL HPRAAGASRQ AQD.....	
huABCL	VEDFSVSQTM LEEVFLYFSK DQGKDEDTEE QKEAGVGVD PAPGLQHPKRV	
	2301	
huABC1	DEKVKESYV.	
huABCR	
huABCL	SQFLDDPSTA ETVL	